

In the United States Court of Federal Claims

No. 17-1812

(Filed: 6 January 2023)

GIESECKE & DEVRIENT GMBH,

*

Plaintiff,

*

*

v.

*

*

THE UNITED STATES,

*

Claim Construction; *Markman* Hearing;

*

Plain and Ordinary Meaning; Intrinsic

Record; Indefinite; Person Having Ordinary

Skill in the Art.

*

and

*

*

IDEORIA IDENTITY
& SECURITY USA, LLC,

*

*

Third-Party Defendant.

*

*

John G. Flaim, Baker & McKenzie, LLP, with whom were *Mackenzie M. Martin* and *D. Yoon Chae*, all of Dallas, TX, for plaintiff.

Michel E. Souaya, Commercial Litigation Branch, Civil Division, with whom were *Gary L. Hausken*, Director, and *Brian M. Boynton*, Principal Deputy Assistant Attorney General, Department of Justice, all of Washington, DC, for defendant.

Richard L. Brophy, Armstrong Teasdale, LLP, of St. Louis, MO, for third-party defendant Idemia Identity & Security USA, LLC.

CLAIM CONSTRUCTION OPINION AND ORDER

HOLTE, Judge.

Plaintiff Giesecke+Devrient GmbH¹ accuses the government of patent infringement. The government noticed Idemia Identity & Security USA, LLC, a distributor of allegedly infringing products, among others, who joined the government in defending the claims of patent infringement. The parties filed claim construction briefs seeking to construe the meaning of various disputed claim terms and resolved construction of one term amongst themselves. The

¹ The corporate name “Giesecke & Devrient GmbH” changed to “Giesecke+Devrient GmbH” on 6 April 2018. Fourth Am. Compl. at 1 n.1, ECF No. 222.

Court held a *Markman* hearing to construe the disputed terms. Defendants argue four of the eighteen claim terms are indefinite under 35 U.S.C. § 112. This Claim Construction Opinion and Order construes the disputed terms.

I. Background

A. Factual History

Plaintiff is the assignee and sole owner of all rights in two asserted patents. Fourth Am. Compl. at 5–6. The asserted patents relate generally to contactless methods for reading electronic passports. U.S. Patent No. 7,837,119 (“the ‘119 Patent”) describes “a method for reliably determining the deliberate use of a contactless data carrier.” ‘119 Patent at [57]. The ‘119 Patent describes a solution to the problem of unauthorized reading of a contactless data carrier, like an electronic passport. A hash key is transmitted in an optical format only authorized reading devices can use to decrypt information stored on the card’s microchip. *See* ‘119 Patent. This prevents unauthorized third parties from decrypting the data stored on the contactless carrier. U.S. Patent No. 8,857,717 (“the ‘717 Patent”) describes “a method for performing machine checking of electronically-stored personal data in a passport booklet.” ‘717 Patent at [57]. The ‘717 Patent seeks to solve the problem of secured data transfers taking too long by sending all the data from the passport to the reader at once, which can be processed and authenticated simultaneously while other mechanical steps are happening, reducing the total time it takes to scan a passport. *See* ‘717 Patent.

Plaintiff contends the government has infringed and continues to infringe upon the asserted patents through its use of certain contactless data carriers, reader devices, and electronically enabled machine-readable passports. Fourth Am. Compl. at 7–9, 30–31. Plaintiff contends some or all the infringing products may be provided by suppliers such as Idemia. *Id.* at 9, 30–31.

B. Relevant Procedural History

Plaintiff filed its complaint on 17 November 2017. *See* Compl., ECF No. 1. On 16 March 2018, the government moved to notice thirty-five interested third parties, including: CSRA LLC; Unisys Corp.; Gemalto North America (“Gemalto”); and MorphoTrust USA, LLC (“Idemia”).² *See* Mot. Notice Third Parties Pursuant Rule 14(b), ECF No. 7; Notice, ECF No. 11. This case was reassigned to the undersigned Judge on 29 July 2019. *See* Order, ECF No. 116. On 15 October 2019, pursuant to a settlement agreement, plaintiff stipulated to dismissal with prejudice of Unisys Corp. under RCFC 41, which the Court granted on 18 October 2019. *See* Stip. Dismissal Unisys, ECF No. 134; Order, ECF No. 135. On 18 February 2020, by agreement of the parties, the Court stayed this case pending World Intellectual Property Organization Arbitration. *See* Order, ECF No. 143. On 3 September 2021, the Court lifted the stay and entered an agreed upon claim construction briefing schedule. *See* Order, ECF No. 213.

² Pursuant to the Rule 7.1 of the Rules of the Court of Federal Claims (“RCFC”) disclosure statement filed 25 May 2018, the previous MorphoTrust entity is now identified in these proceedings as Idemia Identity & Security USA, LLC. *See* Idemia Identity & Security USA LLC’s RCFC 7.1 Disclosure, ECF No. 29.

On 15 October 2021, defendants filed a motion to dismiss plaintiff's '717 Patent infringement claims, alleging the patent is invalid under 35 U.S.C. § 101. *See* Defs.' Mot. Dismiss, ECF No. 226. On 28 October 2021, the parties jointly moved to substitute General Dynamics Information Technology, Inc. ("GDIT") for CSRA, Inc. as a third-party defendant, as the two entities had merged, and the Court granted the motion. *See* J. Mot. Sub. GDIT, ECF No. 234; Order, ECF No. 235. On 14 December 2021, GDIT filed an unopposed motion to dismiss itself pursuant to RCFC 21 because none of its products or services were implicated in view of plaintiff's preliminary infringement contentions, which the Court granted. Unopposed Mot. Dismiss at 2, ECF No. 246; Order, ECF No. 247. On 22 December 2021, the Court stayed the decision on defendants' § 101 motion so the Court could "resolve claim construction disputes prior to a § 101 analysis, for the determination of patent eligibility requires a full understanding of the basic character of the claimed subject matter." Order at 2, ECF No. 249 (internal quotations omitted) (quoting *Bancorp Servs., L.L.C. v. Sun Life Assur. Co. of Canada (U.S.)*, 687 F.3d 1266, 1273–74 (Fed. Cir. 2012)).

Defendants filed their opening claim construction brief on 1 April 2022. *See* Defs.' Opening Cl. Constr. Br. ("Defs.' Cl. Constr. Br."), ECF No. 262. On 12 May 2022, plaintiff and Gemalto filed a motion for voluntary dismissal of Gemalto with prejudice pursuant to RCFC 41 due to their reaching a settlement agreement, ECF No. 263. Plaintiff filed its responsive claim construction brief on 13 May 2022. *See* Pl.'s Resp. Cl. Constr. Br., ECF No. 264. On 23 May 2022, defendants filed their reply claim construction brief. *See* Defs.' Reply Cl. Constr. Br., ECF No. 269. Plaintiff filed a surreply claim construction brief on 31 May 2022. *See* Pl.'s Surreply Cl. Constr. Br., ECF No. 274. The Court held a *Markman* hearing on 20 July 2022. *See* Order, ECF No. 283. On 20 September 2022, the Court granted the motion for voluntary dismissal of Gemalto with prejudice pursuant to RCFC 41 over the government's opposition. *See* Order, ECF No. 290; *see also* Def.'s Updated Resp. Pl.'s Mot. Dismissal Prejudice, ECF No. 271. Defendants' § 101 motion to dismiss remains pending. *See* Defs.' Mot. Dismiss.

C. The Technology of the '119 Patent

The '119 Patent, issued 23 November 2010 and reexamined 1 May 2012, is titled "Contactless Data Carrier." Fourth Am. Compl. Ex. A ("Ex Parte Reexam. Certificate") at [45], [54], ECF No. 222-1. "The invention relates to an apparatus as well as a method for reliably determining the deliberate use of a contactless data carrier." '119 Patent at [57]. Contactless data carriers are equipped with a microchip and an antenna which enables them to exchange data with "suitable reading device[s]." *Id.* at col. 1 ll. 10–13. Common examples of contactless data carriers are credit cards with "tap-to-pay" capability and passports and other identification documents with built-in microchips for reading data. *Id.* at col. 1 ll. 13–17. Contactless cards interact with reading devices to exchange data without requiring physical contact between the card and the reading device. *Id.* at col. 1 ll. 10–13.

Contactless cards introduce the problem of unintended reading of the card by third parties. *Id.* at col. 1 ll. 43–47. With contact-type cards, contact with the reader is required to affect a transfer, so the cardholder has near complete control over when data is transferred. *Id.* at col. 1 ll. 30–32. With contactless cards, a third party with a mobile reading device could initiate a data exchange without the cardholder's knowledge. '119 Patent at col. 1 ll. 24–30. The '119

patent describes a method to “determine[e] the deliberate use of a contactless data carrier[,]” avoiding the problem of unauthorized use. *Id.* at [57].

The data carrier in the '119 Patent, illustrated in Figure 1, has two data-transmission channels: an optical data-transmission channel (5); and an antenna-based data-transmission channel (15). *Id.* at fig.1. One area of the carrier has optical information (4), such as a bar code or matrix code, which can be transmitted to the reading device via the optical transmission channel (5). *Id.* at col. 3 ll. 34–37. Another area has an antenna (2) establishing the distinct antenna-based data-transmission channel (15). *Id.* at col. 3 ll. 32–39. The antenna (2) is attached to an electronic chip (3), which stores the data communicated over the antenna-based channel (15). *Id.*

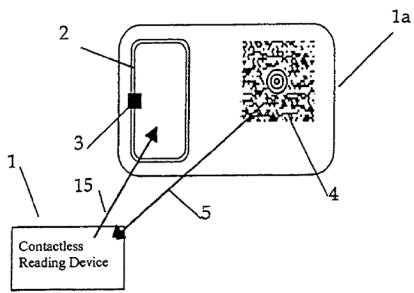


Fig. 1

Depicted in Figure 5, the electronic chip (3) includes a device for data storage (21). '119 Patent at fig.5. This data storage device is divided into two sections: a “freely readable storage area” (24); and a “protected storage area” (22). *Id.* at col. 3 l. 62–col. 4 l. 4. The protected storage area (22) “contains at least one data record” (23) where sensitive data is stored. *Id.* at col. 4 ll. 1–3. Each protected data record (23) in the protected storage area (22) maps on to one data record (25) in the freely readable storage area (24). *Id.* at col. 4 ll. 3–5. The data in the freely readable storage area (24) data record (25) is derived from the corresponding data record (23) in the protected storage area (22) via one of several compression methods. *Id.* at col. 4 ll. 3–9. It is not possible to draw any conclusions about the content of the protected data record from the freely readable compression data. *Id.*

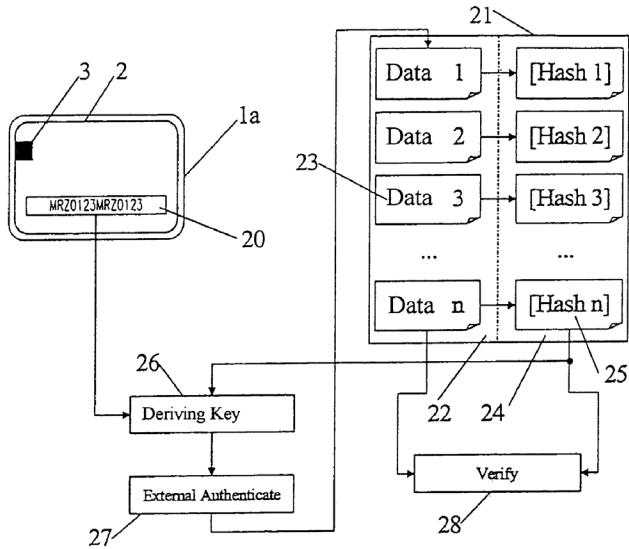


Fig. 5

To prevent the unauthorized reading of data on contactless cards, the '119 Patent describes a four-step authentication process. First, a freely readable data record (25) is “read out via the antenna-based data transmission channel” (15), and the “optically readable information” (20) “is read out with the aid of the reading device” (1). '119 Patent at col. 4 ll. 10–16. Second, a cryptographic key (26) is derived from the freely readable data record (25) and optically readable data (20). *Id.* at col. 4 ll. 17–27. The optical data (20) includes a unique cryptographic key for the data carrier, “derived from the secret master key[.]” *Id.* “The master key is deposited in the reading device for deriving the cryptographic key 26 by means of the optically read information 20 and the contactlessly read data record 25.” *Id.* Third, the reading device (1) is verified by ensuring the key known to the data carrier matches the one stored on the reading device (1). *Id.* at col. 4 ll. 28–42. Authentication methods “already known from prior art” can be used in this step. *Id.* Fourth, and finally, the protected data record (23) corresponding to the freely readable data record (25) read in the first step can be read by the reading device. *Id.* at col. 4 ll. 55–56, col. 8 ll. 9–10.

D. The Technology of the '717 Patent

The '717 Patent, issued 14 October 2014, is titled “Method and Device for Checking an Electronic Passport.” '717 Patent at [45], [54]. “The invention relates to a method for performing machine checking of electronically-stored personal data in a passport booklet.” *Id.* at [57]. Passports referenced in the patent are equipped with a radio-frequency identification (“RFID”) device and an antenna, so data can be read from the passport without contact between the passport and the machine. *Id.* at col. 1 ll. 6–12.

This patent emphasizes the importance of reading the sensitive personal data stored in electronic passports “via a secured data connection.” *Id.* at col. 1 ll. 62–65. A “secure messaging” technique is employed to this end. *Id.* at col. 1 ll. 65–66. “Session keys” are negotiated between the passport and the reader device, which are used to encrypt the

communications between the devices, so the reader knows the passport sent the message, and the passport knows only the reader can read it. *Id.* at col. 1 ll. 66–col. 2 l. 2. Additionally, a send sequence counter (“SSC”) is shared between the passport and reader device to ensure that no data packet is lost. ’717 Patent at col. 2 ll. 3–9. A message authentication code (“MAC”) is also generated by the sender and receiver to ensure the information sent by the passport is the same as that received by the reader device. *Id.* at col. 2 ll. 10–22. Data packets are sent one at a time by the passport and verified by the reader device. *Id.* at col. 2 ll. 23–31. Once validity is established, the reader device requests the next packet. *Id.* at col. 2 ll. 31–32. If any error occurs, the data transfer is immediately terminated. *Id.* at col. 2 ll. 33–34. The MAC method adds another layer of security to the SSC method but results in long reading times. *Id.* at col. 2 ll. 34–36.

The ’717 Patent attempts to address this problem by describing a secured, shorter way to read data. ’717 Patent at col. 2 ll. 36–38. Instead of sending data packets one at a time, the method sends all data from the passport at once. *Id.* at col. 2 ll. 42–50. Once all data is received by the reader, a simple plausibility check is performed (for example, checking the quantity of data received is correct). *Id.* at col. 2 ll. 51–57. If successful, the correctness and authenticity of the data is all checked at once, saving time over the one packet at a time method. *Id.* at col. 2 ll. 45–50. This method has the additional benefit of allowing a visual inspection of the passport by a human being while these checks are run because the data is all sent before the correctness and authenticity check is performed. *Id.* As demonstrated in Figure 3, biometric characteristic processing can also occur concurrently. *Id.* at fig.3.

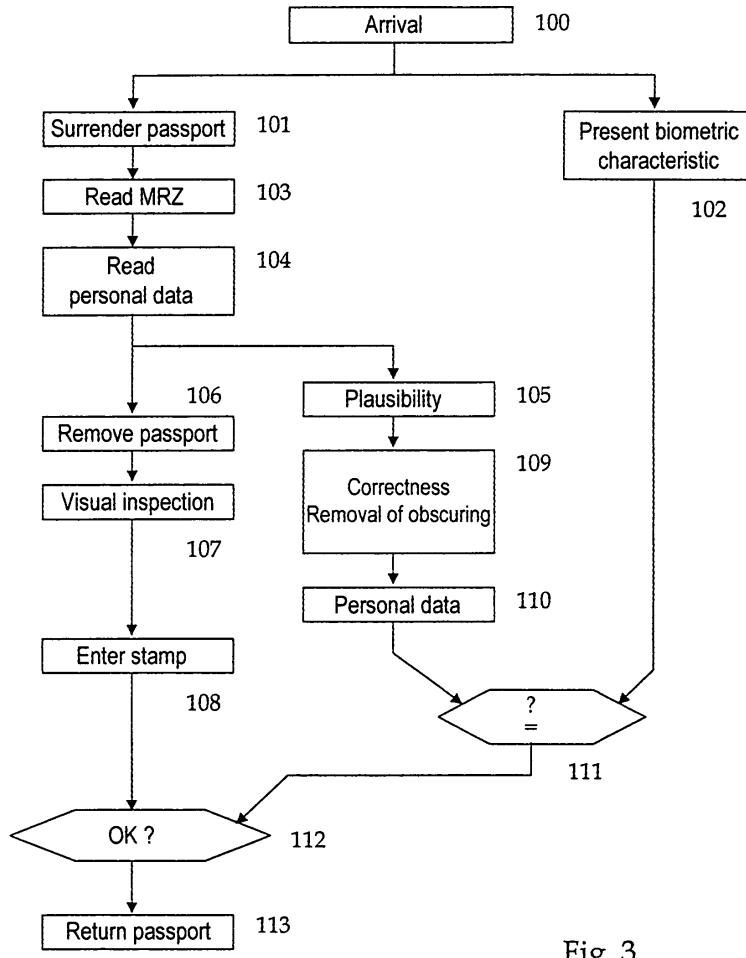


Fig. 3

E. Overview of Claims

1. '119 Patent

Plaintiff asserts infringement of ten claims of the '119 Patent: 1, 3, 5, 14–15, 21, 24, and 28–30. Fourth Am. Compl. at 7. These claims are directed toward a device and method for “determining the deliberate use of a contactless data carrier.” '119 Patent at [57]. Claims 3 and 5 depend on claim 1; claims 15 and 21 depend on claim 14; claims 28, 29, and 30 depend on claim 24. *Id.* at col. 6 l. 47–col. 8 l. 35.

Based on the Court’s detailed review of the '119 Patent, the disputed terms appear in the asserted claims as follows:

Term No.	Disputed Term	Applicable Claims
1	“storage area that is freely readable”/“freely readable storage area”	Claims 1, 24
2	“storage area that is only readable after an authentication of the data carrier and the reading device”	Claim 1
3	“protected storage area”	Claim 24

4	“data record”	Claims 1, 14, 24
5	“clearly allocated” ³	Claim 1
6	“allocated to”	Claims 1, 14
7A	“authentication of the data carrier and the reading device”	Claim 1
7B	“at least a one-sided authentication between the reading device and the data carrier”	Claim 14
7C	“authentication between the reading device and the data carrier is effected”	Claim 22
7D	“authenticate the contactless data carrier”	Claim 24
8	“derivable from the first data record”	Claim 1
9	“effecting an optical data transmission with the help of data disposed on the data carrier” ⁴	Claim 14
10	“22. The method according to claim 14, wherein in a second step, the reading device forms a value derived from the read-out data and a secret key; in a third step, on the basis of the derived value, the authentication between the reading device and the data carrier is effected; and in a fourth step, the first data record is read out by the reading device.”	Claim 22
11	“effecting the data transmission in a bi-directional fashion”	Claim 15

Claim 1 of the '119 Patent, reproduced below, provides a representative example of seven of the disputed claim terms (“storage area that is freely readable,” “storage area that is only readable after an authentication of the data carrier and the reading device,” “data record,” “clearly allocated,” “allocated to,” “authentication of the data carrier and the reading device,” and “derivable from the first data record”). Disputed terms are emphasized:

1. A contactless data carrier with an antenna and a chip, comprising a data carrier on which are disposed data which are transmittable to a reading device via an optical data transmission channel, and on which are disposed data which are transmittable to a reading device via an antenna-based data transmission channel, wherein the chip has storage areas, including at least one *storage area that is freely readable* and at least one *storage area that is only readable after an authentication of the data carrier and the reading device*, wherein the *storage area that is only readable after an authentication of the data carrier, and the reading device*, has at

³ In the parties' joint claim construction chart, the parties presented “clearly allocated” as term 5 and “allocated to” as term 6. J. Cl. Constr. Chart at 4–5, ECF No. 261. In briefing, plaintiff switched these terms' order. Pl.'s Resp. Cl. Constr. Br. at 21, 23. During the *Markman* hearing, the Court also addressed these terms in reverse order. *Markman* Tr. (“Tr.”) at 104:17–25, ECF No. 286. As the Court's construction of “allocated to” informs the Court's construction of “clearly allocated,” *see infra* Sections VII–VIII, this Claim Construction Opinion and Order will address these terms in reverse order below but retain the terms' original numbering.

⁴ In the parties' joint claim construction chart, the parties presented this disputed phrase as term 9. J. Cl. Constr. Chart at 10. In defendants' claim construction brief, defendants state they have withdrawn their indefiniteness argument and agree with plaintiff it “should be construed in accordance with its plain and ordinary meaning.” Defs.' Cl. Constr. Br. at 8. The Court accordingly does not construe this term.

least one first *data record*, and the *freely readable storage area* has at least one second *data record*, which is *clearly allocated to* the first *data record* and is *derivable from the first data record*, wherein an authentication requires the use of the two data transmission channels.

Claim 14 of the '119 Patent, reproduced below, provides a representative example of three disputed claim terms ("data record," "allocated to," and "at least a one-sided authentication between the reading device and the data carrier"). Disputed terms are emphasized:

14. A method for reliably determining the deliberate use of a contactless data carrier, comprising, in dependence on the data to be exchanged between the data carrier and a reading device, in addition to an antenna-based contactless data transmission, effecting an optical data transmission with the help of data disposed on the data carrier, wherein for a readout of a first *data record*, in a first step the reading device reads out a second *data record*, which is *allocated to* the first *data record*, and data optically represented on the data carrier, and effecting *at least a one-sided authentication between the reading device and the data carrier*, wherein the authentication is effected in such a way that it requires the use of both contactless antenna-based data transmission and optical data transmission that together define two data transmission channels.

Claim 15 of the '119 Patent, reproduced below, provides a representative example of one disputed claim term ("effecting the data transmission in a bi-directional fashion"). The disputed term is emphasized:

15. The method according to claim 14, comprising *effecting the data transmission in a bi-directional fashion*.

Claim 22 of the '119 Patent, reproduced below, comprises term 10 and provides a representative example of one additional disputed claim term ("authentication between the reading device and the data carrier is effected"). The additional disputed term is emphasized:

22. The method according to claim 14, wherein in a second step, the reading device forms a value derived from the readout data and a secret key; in a third step, on the basis of the derived value, the *authentication between the reading device and the data carrier is effected*; and in a fourth step, the first data record is read out by the reading device.

Claim 24 of the '119 Patent, reproduced below, provides a representative example of four disputed claim terms ("freely readable storage area," "protected storage area," "data record," and "authenticate the contactless data carrier"). Disputed terms are emphasized:

24. A reading device for reading a contactless data carrier, comprising means for reading optical data and an antenna-based contactless reading interface, the reading device being configured that, for a readout of a first *data record* contained in a *protected storage area* of the data carrier, the reading device first reads out a second

data record contained in a *freely readable storage area* of the data carrier and data optically represented on the data carrier, wherein the reading device is configured to *authenticate the contactless data carrier* using two data transmission channels defined by a contactless antenna-based transmission and an optical data transmission.

2. '717 Patent

Plaintiff asserts infringement of twelve claims of the '717 Patent: 1–11 and 13. Fourth Am. Compl. at 30. These claims are directed toward “a method for performing machine checking of electronically-stored personal data in a passport booklet.” '717 Patent at [57]. Claims 2–11 depend on claim 1. *Id.* at col. 7 l. 12–col. 8 l. 14.

Based on the Court’s detailed review of the '717 Patent, the disputed terms appear in the asserted claims as follows:

Term No.	Disputed Term	Applicable Claims
12	“plausibility check”	Claims 1, 3, 5
13	“checks . . . for plausibility”	Claim 13
14	“checking the recovered personal data for authenticity”	Claim 1
15	“authenticity check”	Claims 1, 2, 4, 6, 8, 9
16	“checking . . . authenticity of read-out data”	Claim 13
17	“wherein the removal of the obscuring and the authenticity check occur only after the passport booklet has been removed from the reader device”	Claims 2, 4, 6
18	“performs the correctness and authenticity checks of the read-out data only after the passport booklet has been removed from the interface”	Claim 13

Claim 1 of the '717 Patent, reproduced below, provides a representative example of three disputed claim terms (“plausibility check,” “checking the recovered personal data for authenticity,” and “authenticity check”). Disputed terms are emphasized:

1. A method for machine checking of personal data stored electronically in a passport booklet, comprising: upon presentation of the passport booklet at a reader device, the passport booklet obscuring the personal data to obtain obscured personal data, and transferring the obscured personal data to the reader device using a key that is negotiated between the passport booklet and the reader device, wherein the transfer of the obscured personal data to the reader device comprises a plurality of responses from the passport booklet, and wherein, for each response in the plurality of responses, the passport booklet forms a first message authentication code MAC, and transmits the first message authentication code MAC in the response to the reader device, the reader device performing a *plausibility check* of the obscured personal data arriving at the reader device, the reader device checking the obscuring in the received obscured personal data for correctness, wherein, for each response

in the plurality of responses, the reader device generates a second message authentication code MAC*, and compares the generated second message authentication code MAC* with the first message authentication code MAC transferred in the response, and wherein the reader device performs the *plausibility check* prior to the checking of the obscuring for correctness, if the correctness of the obscuring is confirmed, removing the obscuring from the obscured personal data, thus obtaining recovered personal data, *checking the recovered personal data for authenticity*, and, upon successful *checking of the recovered personal data for authenticity*, issuing a positive signal, wherein the checking of the obscuring for correctness and the removal of the obscuring and the *authenticity check* occur only after all personal data to be read from the passport booklet are completely transferred to the reader device.

Claim 2 of the '717 Patent, reproduced below, provides a representative example of two disputed claim terms ("authenticity check" and "wherein the removal of the obscuring and the authenticity check occur only after the passport booklet has been removed from the reader device"). Disputed terms are emphasized:

2. The method according to claim 1, *wherein the removal of the obscuring and the authenticity check occur only after the passport booklet has been removed from the reader device.*

Claim 13 of the '717 Patent, reproduced below, provides a representative example of three disputed claim terms ("checks . . . for plausibility," "checking . . . authenticity of read-out data," and "performs the correctness and authenticity checks of the read-out data only after the passport booklet has been removed from the interface"). Disputed terms are emphasized:

13. A reader device with an interface for reading electronically-stored personal data from a passport booklet and a central processing device for *checking correctness and authenticity of read-out data*, wherein the central processing device *checks personal data that are acquired in a plurality of responses from the passport booklet upon receipt for plausibility, but performs the correctness and authenticity checks of the read-out data only after the passport booklet has been removed from the interface*, wherein the correctness check comprises, for each response in the plurality of responses, generating a reader device message authentication code MAC*, and comparing the generated reader device message authentication code MAC* with a passport booklet message authentication code MAC that is received in the response.

II. Applicable Law for Claim Construction

A. Claim Term Interpretation

"[T]he interpretation and construction of patent claims, which define the scope of the patentee's rights under the patent, is a matter of law exclusively for the court." *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 970–71 (Fed. Cir. 1995), *aff'd*, 517 U.S. 370 (1996).

“[T]he words of a claim ‘are generally given their ordinary and customary meaning’ . . . [which] is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention”⁵ *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). “There are only two exceptions to this general rule: 1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution.” *Thorner v. Sony Comput. Ent. Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012) (citing *Vitronics*, 90 F.3d at 1580).

The analysis of any disputed claim terms begins with the intrinsic evidence of record, as “intrinsic evidence is the most significant source of the legally operative meaning of disputed claim language.” *Vitronics*, 90 F.3d at 1582. Additional claims, whether asserted or not, “can also be valuable sources of enlightenment as to the meaning of a claim term.” *Phillips*, 415 F.3d at 1314. This includes consistent use throughout the patent, differences amongst particular terms, and various limitations added throughout the dependent claims. *Id.* at 1314–15. The claims do not stand on their own; “they are part of ‘a fully integrated written instrument,’ consisting principally of a specification that concludes with the claims.” *Id.* at 1315 (quoting *Markman*, 52 F.3d at 978). The claims are therefore “read in view of the specification[.]” *Markman*, 52 F.3d at 979. It is important limitations from preferred embodiments are not read “into the claims absent a clear indication in the intrinsic record that the patentee intended the claims to be so limited.” *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 913 (Fed. Cir. 2004).

The Federal Circuit’s caselaw “instructs that different claim terms are presumed to have different meanings.” *MicroStrategy Inc. v. Bus. Objects Americas*, 238 F. App’x 605, 609 (Fed. Cir. 2007) (citing *CAE Screenplates Inc. v. Heinrich Fiedler GmbH & Co. KG*, 224 F.3d 1308, 1317 (Fed. Cir. 2000) (“In the absence of any evidence to the contrary, we must presume that the use of these different terms in the claims connotes different meanings.”); *Applied Med. Res. Corp. v. U.S. Surgical Corp.*, 448 F.3d 1324, 1333 n.3 (Fed. Cir. 2006) (“[T]he use of two terms in a claim requires that they connote different meanings”)).

B. Prosecution History Weight and Interpretation

The prosecution history may serve as an additional source of intrinsic evidence. *Markman*, 52 F.3d at 980. The prosecution history “consists of the complete record of the

⁵ At the *Markman* hearing, the parties agreed none of the disputed claim term constructions rely on one particular definition of a person having ordinary skill in the art (“PHOSITA”) and the Court need not decide the parties’ dispute over who the PHOSITA is at this stage. Tr. at 10:22–11:20 (“THE COURT: . . . [A]re there any specific terms where the construction is impacted specifically by any difference in who the PHOSITA is? [PLAINTIFF]: I’m not aware of any THE COURT: . . . [D]o [defendants] agree with that? [DEFENDANTS]: Yes[.]”); *see also Cave Consulting Grp., Inc. v. Truven Health Analytics Inc.*, No. 15-2177, 2016 WL 2902234, at *3 (N.D. Cal. May 13, 2016) (“Although the parties disagree about how to define a person having ordinary skill in the art, neither party explained in their papers or at the hearing how this dispute impacts claim construction as none of the proffered constructions turn on the parties’ different definitions of a person of ordinary skill in the art. . . . Accordingly, the Court finds it unnecessary to resolve this dispute at this time.”). The Court agrees and will not define the PHOSITA in this Opinion. The parties also agreed reference to dictionaries from 2022, as opposed to dictionaries predating the patents’ filing, would be acceptable as the meanings of the terms in the patents have not changed. Tr. at 17:7–18:5.

proceedings before the [United States Patent and Trademark Office ('USPTO')] and includes the prior art cited during the examination of the patent." *Phillips*, 415 F.3d at 1317. The prosecution history "represents an ongoing negotiation between the [US]PTO and the applicant, rather than the final product of that negotiation[.]" *Id.* The prosecution history therefore often "lacks the clarity of the specification[.]" making it "less useful for claim construction purposes." *Id.* After considering all intrinsic evidence of record, the court has discretion to consider sources of extrinsic evidence, such as dictionaries, treatises, and expert and inventor testimony, if the court "deems it helpful in determining 'the true meaning of language used in the patent claims.'" *Id.* at 1317–18 (quoting *Markman*, 52 F.3d at 980). While sometimes helpful, extrinsic evidence is "less significant than the intrinsic record in determining the legally operative meaning of claim language." *Id.* at 1317 (internal quotations omitted) (quoting *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 862 (Fed. Cir. 2004)).

"Prosecution disclaimer 'preclud[es] patentees from recapturing through claim interpretation specific meanings disclaimed during prosecution.'" *Aylus Networks, Inc. v. Apple Inc.*, 856 F.3d 1353, 1359 (Fed. Cir. 2017) (quoting *Omega Eng'g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1323 (Fed. Cir. 2003)). Federal Circuit caselaw "requires that the alleged disavowing actions or statements made during prosecution be both clear and unmistakable" to apply the principles of prosecution disclaimer. *Id.* (internal quotations omitted) (quoting *Omega Eng'g*, 334 F.3d at 1325–26). "[W]hen the patentee unequivocally and unambiguously disavows a certain meaning to obtain a patent, the doctrine of prosecution history disclaimer narrows the meaning of the claim consistent with the scope of the claim surrendered." *Biogen Idec, Inc. v. GlaxoSmithKline LLC*, 713 F.3d 1090, 1095 (Fed. Cir. 2013). Further, "statements made by a patent owner during an [inter partes review] proceeding can be considered during claim construction and relied upon to support a finding of prosecution disclaimer." *Aylus*, 856 F.3d at 1361. "Where the alleged disavowal is ambiguous, or even 'amenable to multiple reasonable interpretations,'" however, the Federal Circuit has "declined to find prosecution disclaimer." *Avid Tech., Inc. v. Harmonic, Inc.*, 812 F.3d 1040, 1045 (Fed. Cir. 2016) (quoting *Cordis Corp. v. Medtronic AVE, Inc.*, 339 F.3d 1352, 1359 (Fed. Cir. 2003)).

In *Iridescent Networks, Inc. v. AT&T Mobility, LLC*, the district court construed the term "high quality of service connection," partially relying on the patentee's own statements during prosecution of the parent application. 933 F.3d 1345, 1349–50 (Fed. Cir. 2019). On appeal, plaintiff contended "the prosecution history is irrelevant to the claim construction question because there is no clear and unmistakable disavowal of claim scope." *Id.* at 1352. The Federal Circuit rejected this argument, stating, "[A]ny explanation, elaboration, or qualification presented by the inventor during patent examination is relevant, for the role of claim construction is to 'capture the scope of the actual invention' that is disclosed, described, and patented." *Id.* at 1352–53 (internal quotations omitted) (quoting *Fenner Invs., Ltd. v. Celco P'ship*, 778 F.3d 1320, 1323 (Fed. Cir. 2015)). The Federal Circuit also noted "the disputed term ['high quality of service connection'] is a coined term, meaning it has no ordinary and customary meaning[.]" *Id.* at 1353. The Federal Circuit held courts "may look to the prosecution history for guidance without having to first find a clear and unmistakable disavowal" for terms which do not have ordinary and customary meaning. *Id.*

C. Indefiniteness

“[I]ndefiniteness is a question of law and in effect part of claim construction.” *ePlus, Inc. v. Lawson Software, Inc.*, 700 F.3d 509, 517 (Fed. Cir. 2012). “Indefiniteness must be proven by clear and convincing evidence.” *Sonix Tech. Co. v. Publ’ns Int’l, Ltd.*, 844 F.3d 1370, 1377 (Fed. Cir. 2017). A patent specification must conclude with claims that distinctly point out the subject matter of the invention. 35 U.S.C. § 112, ¶ 2⁶; *see* Tr. at 12:19–23 (plaintiff’s counsel agreeing any indefinite term will invalidate the claim it is within). A patent claim need not answer every conceivable question to be found definite. *See Nature Simulation Sys. Inc. v. Autodesk, Inc.*, 50 F.4th 1358, 1364 (Fed. Cir. 2022) (finding the district court incorrectly invalidated a claim based on the unanswered questions standard). Instead, the relevant analysis is whether the patent “would have allowed a skilled artisan to know the scope of the claimed invention with reasonable certainty.” *Id.* (internal quotations omitted) (quoting *Sonix Tech.*, 844 F.3d at 1377). If a skilled artisan cannot, then the patent claim fails § 112, ¶ 2 and is indefinite. *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014). “The indefiniteness inquiry is concerned with whether the bounds of the invention are sufficiently demarcated, not with whether one of ordinary skill in the art may find a way to practice the invention.” *ePlus*, 700 F.3d at 519 (citing *Aristocrat Techs. Austl. Pty Ltd. v. Int’l Game Tech.*, 521 F.3d 1328, 1337 (Fed. Cir. 2008)). To assess whether a claim is indefinite, therefore, a court does not “look to the knowledge of one skilled in the art apart from and unconnected to the disclosure of the patent.” *Aristocrat Techs. Austl. Pty*, 521 F.3d at 1337 (quoting *Med. Instrumentation & Diagnostics Corp. v. Elekta AB*, 344 F.3d 1205, 1212 (Fed. Cir. 2003)). A court rather “look[s] at the disclosure of the patent and determine[s] if one of skill in the art would have understood that disclosure to encompass” the required structure. *Id.* (internal quotations omitted) (quoting *Med. Instrumentation*, 344 F.3d at 1212). As such, “[a] patent need not explicitly include information that is already well known in the art.” *Presidio Components, Inc. v. Am. Tech. Ceramics Corp.*, 875 F.3d 1369, 1376 (Fed. Cir. 2017) (citing *Nautilus*, 572 U.S. at 906). If a general approach is “sufficiently well established in the art and referenced in the patent[,]” the claim is not indefinite. *Id.* at 1377.

Claim construction may contain indefiniteness inquires, but other invalidity arguments under § 112, such as lack of enablement or lack of adequate written description, are separate and distinct. *See ePlus*, 700 F.3d at 517; *Philips*, 415 F.3d at 1327 (“[W]e have certainly not endorsed a regime in which validity analysis is a regular component of claim construction.”). Despite invalidity conceptually overlapping with indefiniteness, parties must use the proper standard when arguing invalidity. *See, e.g., Augme Techs., Inc. v. Yahoo! Inc.*, 755 F.3d 1326, 1340 (Fed. Cir. 2014) (“Appellants’ arguments appear to be based on the wrong legal standard, i.e., written description or enablement as opposed to indefiniteness.”); *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1358 n.2 (Fed. Cir. 1999) (“[D]efiniteness and enablement are analytically distinct requirements [of validity], even though both concepts are contained in 35 U.S.C. § 112.”).

III. Disputed Claim Term #1: “storage area that is freely readable”/“freely readable

⁶ The paragraphs of 35 U.S.C. § 112 were replaced with newly designated subsections when the America Invents Act (“AIA”), Pub. L. No. 112–29, took effect on 16 September 2012. The application resulting in the ’119 Patent was filed before the AIA’s effective date, so the Court refers to the pre-AIA version of § 112 when addressing defendants’ indefiniteness arguments.

storage area”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
plain and ordinary meaning; no construction necessary	“area of a functional unit into which data can be placed and retained, and later retrieved without first establishing permission”

This disputed term appears in claims 1 and 24 of the ’119 Patent. *See* Defs.’ Cl. Constr. Br. at 8. The following claim limitations highlight selected usage of the term in context:

wherein the chip has storage areas, including at least one *storage area that is freely readable* and at least one storage area that is only readable after an authentication of the data carrier and the reading device, wherein the storage area that is only readable after an authentication of the data carrier, and the reading device, has at least one first data record, and the *freely readable storage area* has at least one second data record,

Ex Parte Reexam. Certificate at col. 1 ll. 30–38,

the reading device being configured that, for a readout of a first data record contained in a protected storage area of the data carrier, the reading device first reads out a second data record contained in a *freely readable storage area* of the data carrier and data optically represented on the data carrier,

id. at col. 2 ll. 27–32.

A. Parties’ Arguments

1. Storage Area

The parties dispute whether the claimed term “storage area” requires clarification. Defendants’ proposed construction limits a storage area to part of a “functional unit” where data can be “placed and retained, and later retrieved.” Defs.’ Cl. Constr. Br. at 9. Defendants argue the claims uniformly require data stored in the “storage areas” to be “transmitted from the data carrier to the reading device.” *Id.* at 10. Defendants highlight the specification refers to data in the “storage areas” being “released.” *Id.* According to defendants, the patent describes a process which depends on this transmission or release of data from the “storage areas,” which requires data be retained in “storage areas.” *Id.* Defendants cite a definition of storage supporting their position: “[a] functional unit into which data can be placed, . . . retained, . . . [and] retrieved.” *Id.* (quoting Ex. 7 (M.H. Weik Communications Standard Dictionary (2d ed. 1989)) at Giesecke_00008443).

Plaintiff argues “storage area” has a plain and ordinary meaning which does not require construction by the Court. Pl.’s Resp. Cl. Constr. Br. at 13. First, plaintiff argues the claims make clear the “storage area” must be part of the contactless data carrier. *Id.* Plaintiff cites part of claim 24 as an example: “[F]or a readout of a first data record contained in a protected

storage area of the data carrier, . . . reads out a second data record contained in a freely readable storage area of the data carrier[.]” *Id.* (citing ’119 Patent at col. 8 ll. 18–21). An understanding the “storage areas” are part of the data carrier is consistent with the plain and ordinary meaning, according to plaintiff. *Id.* Plaintiff argues “functional unit” does not appear in the claim language . . . [] only adds confusion” to the term “storage area,” and should be rejected. *Id.* at 13–14 (citing *Verbovsky v. Goodbaby Int’l Holdings, Ltd.*, No. 16-2382, 2017 WL 3840416, at *8 (N.D. Ohio Sept. 1, 2017)). Plaintiff also argues the intrinsic evidence does not require the “storage area” be one where data can be “placed and retained, and later retrieved.” *Id.* at 14. Plaintiff notes the only intrinsic evidence in the ’119 Patent in support of defendants’ construction is a reference to secret information being released from the “storage area.” Pl.’s Resp. Cl. Constr. Br. at 14. Plaintiff criticizes the use of the extrinsic dictionary definition and asserts defendants arbitrarily chose the narrowest definition of multiple definitions provided. *Id.*

2. Freely Readable

The parties dispute whether the claimed term “freely readable” requires further clarification. Defendants’ proposed construction of “freely readable” narrows the meaning to an area that can be accessed without permission. Defs.’ Cl. Constr. Br. at 11. The claim, defendants argue, contrasts the “freely readable” storage area with the protected storage area, which is one read from only after authentication. *Id.* at 11–12; *see also* ’119 Patent at col. 4 ll. 57–61. Defendants argue this contrast implies a “freely readable” storage area is one that can be accessed without first having to seek permission. Defs.’ Cl. Constr. Br. at 12.

Defendants additionally argue plaintiff disclaimed the plain and ordinary meaning of “freely readable” in the prosecution history. *Id.* Plaintiff represented to USPTO “[t]o a skilled person, a storage area is not ‘freely readable’ if it ‘would only be readable by the CPU and the terminal, which has already been granted access to the [storage area].’” *Id.* (quoting Ex. 3 (’119 Patent, *Applicant Arguments Made in an Amendment*, May 3, 2010) at 39–41, ECF No. 262-3). Defendants claim this representation has the same meaning as their proposed construction. *Id.* at 12–13. Defendants are amenable to a construction of “freely readable” meaning “without authentication.” Defs.’ Reply Cl. Constr. Br. at 3.

Plaintiff responds by arguing for a plain and ordinary meaning construction. Pl.’s Resp. Cl. Constr. Br. at 15. Plaintiff agrees with defendants the ’119 Patent distinguishes the freely readable storage area from the storage area requiring authentication. *Id.* Plaintiff objects to the introduction of the terms “establishing” and “permission.” *Id.* These terms are not used anywhere in the patent, and the prosecution history also does not suggest the introduction of this new concept to the construction, plaintiff argues. *Id.* at 16. While maintaining its position preferring a non-construction in favor of “plain and ordinary meaning,” plaintiff acknowledges “without authentication” captures the meaning of this term. *Id.* at 15 (the phrase “has a plain and ordinary meaning of readable without authentication”); Tr. at 24:1–3 (“[PLAINTIFF]: . . . [T]he phrase [‘freely readable’] is readily understandable on its own, but I think that it generally means readable without authentication.”).

B. Analysis

1. The Court's Preliminary Construction

Before the *Markman* hearing, the Court considered the parties' claim construction briefs and all referenced materials in full in reaching a preliminary construction for this disputed term. Reviewing the intrinsic record first, the Court found defendants' construction to be well supported, with slight modifications. Extrinsic evidence further bolstered defendants' construction. As such, the Court decided upon the following preliminary construction: "area of a functioning unit into which data can be placed and retained, and later retrieved without an authentication."

2. The Court's Final Construction

At the *Markman* hearing, the Court provided the parties with the Court's preliminary construction. Tr. at 19:1–4.

Addressing "freely readable" first, the claim language including this term illuminates its meaning. The disputed claim term appears in claims 1 and 24. *See* '119 Patent at col. 6, ll. 28–43, col. 8 ll. 16–22. Claim 1 does not elaborate on what is meant by "storage area that is freely readable[,]" but it does contrast the term with an area "only readable after an authentication of the data carrier and the reading device[.]" '119 Patent at col. 6 ll. 35–37. This contrast implies a "freely readable storage area" is one not requiring authentication of the two devices before reading from it. Similarly, claim 24 highlights a "freely readable storage area" can be read from *before* any authentication for the protected area occurs. *Ex Parte Reexam. Certificate* at col. 2 ll. 28–31 ("for a readout of the first data record contained in a protected storage area . . . the reading device first reads out a . . . data record contained in a *freely readable storage area*" (emphasis added)). The parties agree "readable without authentication" is a fair construction of "freely readable" in the context of the disputed claim term. *Defs.' Reply Cl. Constr. Br.* at 3 (defendants); Tr. at 24:1–3 (plaintiff).

Next, to construe the term "storage area," the Court first looks to the claim language and seeks to give the term its ordinary meaning. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) ("[T]he words of a claim are generally given their ordinary and customary meaning." (internal quotations omitted)). The claims consistently describe data being stored and later read from the storage area. "[T]he freely readable storage area has at least one . . . data record . . ." '119 Patent at col. 6 ll. 40–41. "[T]he reading device first reads out a . . . data record contained in a freely readable storage area . . ." *Id.* at col. 8 ll. 19–21. Plaintiff argues the storage area described in the claim could be "write-only," Tr. at 26:2–11, but the plain language of the claims cited above requires readability, rebutting plaintiff's assertion. Other than requiring readability, the claim language does not further restrict the broad term "storage area."

The Court next turns to the specification to understand "storage area" in the context of the invention. *See DeMarini Sports, Inc. v. Worth, Inc.*, 239 F.3d 1314, 1324 (Fed. Cir. 2001) ("We cannot look at the ordinary meaning of the term . . . in a vacuum."). The specification supports the understanding data must be read out of the storage area. "For reading out one of the data records . . . according to the invention it is provided, that in a first procedure step the data record . . . is read out via the antenna-based data transmission channel . . ." '119 Patent at col. 4

ll. 10–13. The specification explains: “The freely readable storage area . . . contains at least one data record” which is allocated to and derived from a data record in the protected storage area “which consists of information to be kept secret, such as e.g. biometric data, PIN etc.” *Id.* at col. 4 ll. 1–7.

The nature of the data in the storage area further reveals the storage area’s function. Plaintiff argues the storage could be for random numbers generated as part of the authentication process, and thus could be write-only. Tr. at 26:5–13. The claims, read in context of the specification, contradict plaintiff’s argument and indicate the storage area stores “at least one data record” which is “allocated” to the data record in the protected storage area. ’119 Patent at col. 4 ll. 1–7; *see* Tr. at 30:4–8 (“[DEFENDANTS]: The first data record is . . . some information about me or some information that we need to protect.”). This data is not data generated as part of the reading process after the chip is powered on by an RFID signal, it is data carried on the card all the time, including when it is not connected to power. ’119 Patent at col. 4 ll. 1–7. “[A]ll the figures, all the language, all the claims, exclusively these storage areas refer to information that is nonvolatile, that is always on the card whether it’s powered up or not.” Tr. at 28:21–25 (defendants’ counsel). The data is meant to be stored permanently and communicated to a reading device. ’119 Patent at col. 4 ll. 1–7. The freely readable storage area, therefore, cannot consist of “volatile memory” which causes data to be lost when disconnected from power. *See* Tr. at 27:1–29:10. The storage area must be long-term, nonvolatile memory, capable of storing data without being connected to power. *See id.* “The entire premise of this patent is that I have some information on the data carrier that is worth something and worth reading. The patent . . . presumes there’s something on the card to be protected.” Tr. at 28:5–10 (defendants’ counsel).

A construction requiring nonvolatile memory in the freely readable storage area does not preclude the data carrier from having volatile memory in *other* data storage areas, for example to store the random number generated in the “get-challenge” command. ’119 Patent at col. 4 ll. 35–39; Tr. at 26:11–13. This construction only means the storage area described in the disputed claim terms—the “freely readable” storage area—requires nonvolatile memory. In other words, this construction requires the freely readable storage area is one from which “data can be placed and retained, and later retrieved.” Defs.’ Cl. Constr. Br. at 9.

The extrinsic evidence only bolsters the construction arrived at by examining the intrinsic evidence. The dictionary definition provided by defendants supports the understanding of storage area presented in the patent: “[a] functional unit into which data can be placed, . . . retained, . . . [and] retrieved.” Defs.’ Cl. Constr. Br. at 10 (quoting Ex. 7 (M.H. Weik Communications Standard Dictionary (2d ed. 1989)) at Giesecke_00008443). Defendants’ construction replaces “storage area” with “area of a functional unit.” This phrase is pulled from the definition of “storage.” *Id.* To avoid confusion with a unit of measurement, the Court proposed to replace the term “functional unit” with “functioning unit” in its preliminary construction, with which neither party took issue. Tr. at 19:1–22:6 (plaintiff’s opening arguments on this term, not raising this issue), 26:16–21 (defendants agreeing with the Court’s preliminary construction “so long as it excludes write-only and perhaps excludes a power-down erase”), 62:2–6 (plaintiff confirming its dispute with the Court’s preliminary construction is related to volatile memory).

During oral argument, plaintiff stated the Court’s preliminary construction was acceptable so long as the construction includes the understanding the storage area could be volatile or write-only. Tr. at 26:5–13. Defendants agree with the Court’s construction so long as it was understood the storage area could *not* be volatile or write-only. Tr. at 26:16–21. As discussed above, defendants are correct the freely readable storage area must possess nonvolatile storage for the data record. Accordingly, the Court adopts its preliminary construction as final: “area of a functioning unit into which data can be placed and retained, and later retrieved without an authentication.”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
plain and ordinary meaning; no construction necessary	“area of a functional unit into which data can be placed and retained, and later retrieved without first establishing permission.”
Court’s Construction	
“area of a functioning unit into which data can be placed and retained, and later retrieved without an authentication”	

IV. Disputed Claim Term #2: “storage area that is only readable after an authentication of the data carrier and the reading device”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
plain and ordinary meaning; no construction necessary	“area of a functional unit into which data can be placed and retained, and later retrieved only after mutual authentication of the data carrier and the reading device”

This disputed term appears in claim 1. *See* Defs.’ Cl. Constr. Br. at 13. The following claim limitation highlights selected usage of the term in context:

wherein the chip has storage areas, including at least one storage area that is freely readable and at least one *storage area that is only readable after an authentication of the data carrier and the reading device*, wherein the *storage area that is only readable after an authentication of the data carrier, and the reading device*, has at least one first data record

Ex Parte Reexam. Certificate at col. 1 ll. 30–36.

A. Parties’ Arguments

The ’119 Patent describes a system with two storage areas—one freely readable and the other not. Ex Parte Reexam. Certificate at col. 1 ll. 24–41. Claim 1 describes the protected storage area as “only readable after an authentication of the data carrier and the reading device[.]” *Id.* Defendants argue the disputed claim term requires a construction clarifying the authentication referred to in claim 1 requires “mutual” authentication. Defs.’ Cl. Constr. Br. at 13. Defendants note the specification is clear to distinguish between “one-sided authentication”

and “mutual authentication.” *Id.* Defendants argue by requiring authentication of both the data carrier *and* the reading device, claim 1 envisions mutual authentication. *Id.*

Defendants additionally argue plaintiff disclaimed a non-mutual authentication in claim 1 in the prosecution history. *Id.* During patent prosecution, plaintiff stated “the inventive feature of claim 1 [is] the storage area . . . is readable *only after an authentication of the data carrier and the reading device[.]*” Defs.’ Cl. Constr Br. Ex. 3 (‘119 Patent, *Applicant Arguments Made in an Amendment*, May 3, 2010) at 41. Defendants argue this characterization to USPTO further supports reading the claim to require mutual authentication. Defs.’ Cl. Constr Br. at 13–14.

Plaintiff argues the prosecution history only precludes the use of passwords for authentication, not all one-sided authentication methods. Pl.’s Resp. Cl. Constr. Br. at 16–17. Passwords are used to authenticate specific *users*, while a one-sided authentication of a device would use a method other than passwords. *Id.* at 17. Plaintiff denies any intent to distinguish claim 1 from one-sided authentication methods in general. *Id.* In fact, plaintiff claims the prosecution history clarifies the authentication in claim 1 is “*between* the reading device and the data carrier.” *Id.* (internal quotations omitted) (quoting Jt. Cl. Constr. App. Ex. 3 (‘119 Patent File History) at JA248–49, ECF No. 266-4).

Plaintiff argues the phrase “an authentication of the data carrier and the reading device” is clear and should be given its plain and ordinary meaning. *Id.* at 16. Plaintiff disagrees with defendants’ construction adding the word “mutual.” *Id.* Claim 1 does not use the word mutual to describe the type of authentication, and other claims specify the type of authentication. *See Ex Parte Reexam. Certificate* at col. 2 ll. 22–24 (“The method according to claim 14, wherein the authentication is carried out in the manner of a challenge-response method”). Plaintiff asserts if the patentee was able to specify a type of authentication in other parts of the patent and so limit those claims, the patentee could have done the same in claim 1 if the patentee meant claim 1 to be limited as such. Pl.’s Resp. Cl. Constr. Br. at 16. Plaintiff argues authentication involves both the card reader and the data carrier when it occurs *between* the devices, but this does not mean both devices are mutually authenticated. *Id.* at 17.

Defendants respond by noting this interpretation requires changing the wording of the claim to “storage area that is only readable after an authentication *between* the data carrier and the reading device.” Defs.’ Reply Cl. Constr. Br. at 11.

B. Analysis

1. The Court’s Preliminary Construction

Before the *Markman* hearing, the Court considered the parties’ claim construction briefs and all referenced materials in full in reaching a preliminary construction for this disputed term. Reviewing the intrinsic record and considering the Court’s construction of disputed claim term 1, *supra* Section III, the Court found defendants’ construction of this term to be well supported. As such, the Court decided upon the following preliminary construction: “area of a functioning unit into which data can be placed and retained, and later retrieved only after mutual identity verification of the data carrier and the reading device.”

2. The Court's Final Construction

At the *Markman* hearing, the Court provided the parties with the Court's preliminary construction. Tr. at 67:6–13.

The disputed claim language is “storage area that is only readable after an authentication of the data carrier and the reading device.” Ex Parte Reexam. Certificate at col. 1 ll. 31–33. When a claim says “authentication of A and B,” the most natural reading is both A and B must be authenticated. *See Thorner v. Sony Comput. Ent. Am. LLC*, 669 F.3d 1362, 1367 (Fed. Cir. 2012) (citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005)). The straightforward interpretation of the language of the claim term leads to an understanding the authentication must be mutual, in the sense both the data carrier and the reading device must be authenticated. Plaintiff argues authentication *between* two devices would involve both devices without necessarily being an authentication *of* both devices. Pl.’s Resp. Cl. Constr. Br. at 17. This explanation of the disputed term appears nowhere in the claim or specification, so it does not approach the high standard required for the patentee to act as their own lexicographer. *See Thorner*, 669 F.3d at 1365–66. Perhaps more importantly, the claim term does not express the authentication is “between” the two devices—the claim term states authentication is “of” the two devices. Ex Parte Reexam. Certificate at col. 1 ll. 31–33. Plaintiff additionally notes the patent specifies mutual authentication in other places, but not here in claim 1. Pl.’s Resp. Cl. Constr. Br. at 17. Neither argument, however, is strong enough to overcome the plain meaning of the language in the claim, which says authentication is “of” the data carrier *and* the reading device. Ex Parte Reexam. Certificate at col. 1 ll. 31–33.

The parties agreed the most natural reading of the claim language requires *both* the data carrier and reading device to be authenticated. Defending their construction favoring mutuality, defendants explained “‘and’ means ‘and’ and those two things [the data carrier and the reading device] need to be authenticated with one another[.]” Tr. at 78:4–5. Plaintiff, arguing for interpreting the authentication in claim 1 as a one-way authentication *between* the devices, acknowledged “[d]ifferent words were used” in claim 1, Tr. at 71:23–25, and “it would have been more proper to say ‘or’” instead of “and,” Tr. at 74:19–23. The parties apparently agree on the meaning of the plain language of this claim term, but plaintiff seeks to imbue a novel “implicit” meaning. *See* Tr. at 71:14–25 (“THE COURT: So why didn’t the claim say ‘authentication between?’ [PLAINTIFF]: I think it was just implicit that it was between the two and so the word was not included. . . . THE COURT: So why does claim 14 have that and not this claim? [PLAINTIFF]: . . . I think the same thing was intended. Different words were used, but I think the meaning is the same.”).

The prosecution history also supports the understanding the authentication is mutual. When distinguishing claim 1 from the prior art, the patentee stated “the inventive feature of claim 1 [is] the storage area . . . is readable only after an authentication of the data carrier *and* the reading device[.]” Defs.’ Cl. Constr. Br. Ex. 3 (’119 Patent, *Applicant Arguments Made in an Amendment*, May 3, 2010) at 41 (emphasis added). This reiteration of the language from claim 1 emphasizes the notion the authentication is mutual. Plaintiff argues the statement, in context, distinguishes the authentication from *password*-based authentication and points to language in

the prosecution history where the patentee described the authentication as being *between* the devices. Pl.’s Resp. Cl. Constr. Br. at 16–17. These statements, however, do not amount to a “clear disavowal” of the ordinary meaning of “of” from the claim language; they are at most ambiguous. *See Home Diagnostics, Inc. v. LifeScan, Inc.*, 381 F.3d 1352, 1358 (Fed. Cir. 2004). The term will be given its “ordinary and customary” meaning because the disputed claim language is plainly understood to require mutual authentication and is not clearly modified or disavowed. *See Phillips*, 415 F.3d at 1312–13.

The Court adopts its preliminary construction as final: “area of a functioning unit into which data can be placed and retained, and later retrieved only after mutual identity verification of the data carrier and the reading device.”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
plain and ordinary meaning; no construction necessary	“area of a functional unit into which data can be placed and retained, and later retrieved only after mutual authentication of the data carrier and the reading device”
Court’s Construction	
“area of a functioning unit into which data can be placed and retained, and later retrieved only after mutual identity verification of the data carrier and the reading device”	

V. Disputed Claim Term #3: “protected storage area”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
plain and ordinary meaning; no construction necessary	“area of a functional unit into which data can be placed and retained, and later retrieved only after authentication of the reading device”

This disputed term appears in claim 24. *See* Defs.’ Cl. Constr. Br. at 14. The following claim limitation highlights selected usage of the term in context:

the reading device being configured that, for a readout of a first data record contained in a *protected storage area* of the data carrier, the reading device first reads out a second data record contained in a freely readable storage area of the data carrier and data optically represented on the data carrier

Ex Parte Reexam. Certificate at col. 2 ll. 27–32.

A. Parties’ Arguments

Defendants argue the disputed claim term requires clarification about the nature of the protection. Defs.’ Cl. Constr. Br. at 14. Namely, they argue the reading device must be authenticated before being allowed to access the “protected” storage area. *Id.* Defendants note the specification teaches the protected storage area “may only be readable after the authentication process (one-way authentication or mutual authentication)[.]” *Id.* Defendants’

construction, consistent with the teaching from the specification, allows for a one-way authentication, as long as authentication is of the reading device. *Id.*

Plaintiff argues the term does not require construction and should be given its plain and ordinary meaning. Pl.’s Resp. Cl. Constr. Br. at 18. Plaintiff notes “protected” serves only to distinguish from the “freely readable” storage area. *Id.* Plaintiff argues against the requirement in defendants’ construction of authentication for the reading device by noting such authentication is not explicitly called for in the claim. *Id.* In fact, the only reference to authentication in claim 24 says “the *reading device* is configured to authenticate the *contactless data carrier[.]*” Ex Parte Reexam. Certificate at col. 2 ll. 32–34. The claim’s plain language does not specify which device must be authenticated, plaintiff argues, but, because the claim only contemplates authentication of the data carrier, it would be odd to say a one-way authentication of the *reading device* is required. Pl.’s Resp. Cl. Constr. Br. at 18–19.

B. Analysis

1. The Court’s Preliminary Construction

Before the *Markman* hearing, the Court considered the parties’ claim construction briefs and all referenced materials in full in reaching a preliminary construction for this disputed term. Reviewing the intrinsic record and considering the Court’s construction of “storage area,” *supra* Section III, the Court found defendants’ construction of this term to be well supported. As such, the Court decided upon the following preliminary construction: “area of a functioning unit into which data can be placed and retained, and later retrieved only after authentication of the reading device.”

2. The Court’s Final Construction

At the *Markman* hearing, the Court provided the parties with the Court’s preliminary construction. Tr. at 79:14–20.

Claim 24 does not elaborate on the nature of the storage area’s “protection.” *See* Ex Parte Reexam. Certificate at col. 2 ll. 25–36. It does indicate “the reading device is configured to authenticate the contactless data carrier[.]” but the plain meaning of the text does not connect this authentication to the storage area’s protection. *Id.* at col. 2. ll. 32–34. Claim 1 gives more information about the protected storage area, saying it “is only readable after an authentication of the data carrier and the reading device[.]” *Id.* at col. 1 ll. 32–33.

Defendants’ proposed construction requires the reading device to be authenticated before it is allowed to read from the protected storage area. Defendants argue the specification teaches this requirement when it says data in the protected storage area can be read out “[a]fter a successful authentication[.]” ’119 Patent at col. 4 ll. 55–56. Plaintiff agrees only one-way authentication should be required but argues an authentication of the data carrier by the reading device would suffice, making defendants’ construction too narrow. Pl.’s Resp. Cl. Constr. Br. at 18–19. As the ’119 Patent discloses the protected storage contains sensitive information, the Court preliminarily agreed with defendants a PHOSITA would understand this term to require

authentication of the device seeking access to the protected storage area—the reading device. '119 Patent at col. 4 ll. 28–61.

During the *Markman* hearing, plaintiff objected to the last four words of the Court’s preliminary construction, which require the authentication to be “of the reading device.” Tr. at 81:11–12. Consistent with its briefing, plaintiff argued the claim language does not specify which device must be authenticated, rather an authentication must occur. Tr. at 81:2–82:15. Defendants explained this portion of their proposed construction was a typographical error. Tr. 82:18–20. To be consistent with the language in claim 24, defendants argued the construction should require the authentication to be of the *data carrier*. Tr. at 83:4–5; *see Ex Parte Reexam. Certificate* at col. 2 ll. 32–34. Both parties then agreed the construction would be acceptable if “of the reading device” were dropped from the Court’s preliminary construction. Tr. at 84:25–85:23.

As the parties’ jointly proposed construction is consistent with the Court’s earlier construction of “storage area,” *supra* Section III, with the Court’s preliminary construction of this term without specifying which device is authenticated, and with the intrinsic record insofar as it does not conflict with any disclosure in the specification by requiring a particular authentication, the Court adopts the following construction of this disputed claim term: “area of a functioning unit into which data can be placed and retained, and later retrieved only after authentication.”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
plain and ordinary meaning; no construction necessary	“area of a functional unit into which data can be placed and retained, and later retrieved only after authentication of the reading device”
Court’s Construction	
“area of a functioning unit into which data can be placed and retained, and later retrieved only after authentication”	

VI. Disputed Claim Term #4: “data record”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
plain and ordinary meaning; no construction necessary	“collection of related data treated as a unit contiguous in location”

This disputed term appears in claims 1, 14, and 24. *See* Defs.’ Cl. Constr. Br. at 15. The following claim limitations highlight selected usage of the term in context:

the reading device, has at least one first *data record*, and the freely readable storage area has at least one second *data record*, which is clearly allocated to the first *data record* and is derivable from the first *data record*,

Ex Parte Reexam. Certificate at col. 1 ll. 35–39,

wherein for a readout of a first *data record*, in a first step the reading device reads out a second *data record*, which is allocated to the first *data record*,

id. at col. 2 ll. 7–9,

the reading device being configured that, for a readout of a first *data record* contained in a protected storage area of the data carrier, the reading device first reads out a second *data record* contained in a freely readable storage area of the data carrier,

id. at col. 2 ll. 27–31.

A. Parties' Arguments

Defendants argue the disputed claim term should be read narrowly considering its use in the claims and specification. Defs.' Cl. Constr. Br. at 15. Defendants' construction limits "data records" in three ways: data in a data record must be (1) a "collection of related data"; (2) "treated as a unit"; and (3) "contiguous in location." *Id.* In support of these limitations, defendants note the specification teaches a data record can be in one of two locations, a "freely readable" or a "protected" storage area. *Id.* (citing '119 Patent at col. 3 l. 64–col. 4 l. 9). Each of these locations must contain at least one data record, and the record in the freely readable storage area must be allocated to the respective record in the protected area. *Id.* (citing '119 Patent at col. 4 ll. 1–7). The data record in the protected storage area contains secret information, and the data record in the freely readable storage area contains a compression value. *Id.* (citing '119 Patent at col. 4 ll. 1–7). Data records are transmitted as a package to the reading device. *Id.* at 15–16 (citing '119 Patent at col. 4 ll. 11–13). Defendants argue the data in a data record must be "related" because the type of data in a record (either secret information or a compression valued) is described in the claim. Defs.' Cl. Constr. Br. at 15–16. Defendants argue the data must also be "treated as a unit" because the relationship between them (one allocated to the other) is specified, and the whole data record is transmitted as a unit. *Id.* Finally, defendants argue data records in the '119 Patent must be "contiguous in location" because their location in one of two protected storage areas is specified. *Id.*

Defendants aver their construction is supported by Figure 5, shown below. *Id.* at 16. Figure 5 represents each data record as a complete unit and stored contiguously within one of the two storage areas. '119 Patent at fig.5. Like the claim language, defendants argue this figure supports their construction because it shows the data record must be a "collection of related data" and stored "contiguous in location." Defs.' Cl. Constr. Br. at 16.

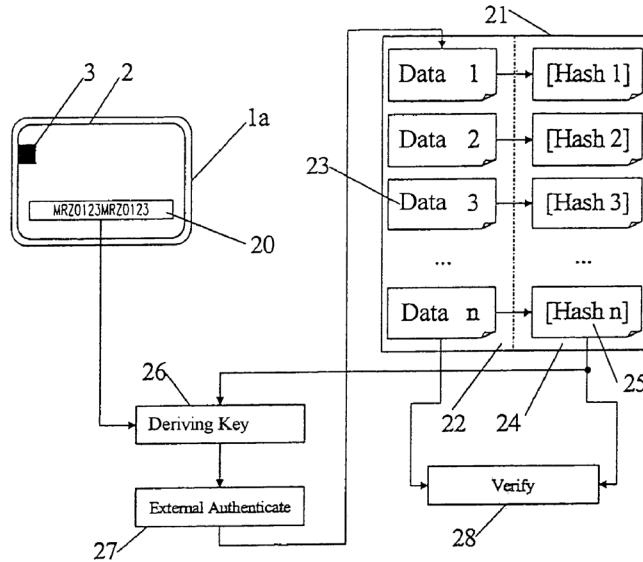


Fig. 5

Lastly, defendants point to extrinsic evidence in the form of technical dictionaries to support their construction. *Id.* The dictionary definitions cited by defendants are as follows:

Dictionary	Definition
IBM DICTIONARY OF COMPUTING (10th ed. 1993) (Ex. 6 at 13)	“record” – “(2) A set of data treated as a unit.”
MCGRAW HILL DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS (5th ed. 1994) (Ex. 6 at 17)	“data record” – “A collection of data items related in some fashion and usually contiguous in location.”
IEEE STANDARD DICTIONARY OF ELECTRICAL AND ELECTRONICS TERMS (1984) (Ex. 6 at 24)	“record” – “(1) A collection of related items of data, treated as a unit.”

Plaintiff argues the disputed term “data record” should be given its plain and ordinary meaning. Pl.’s Resp. Cl. Constr. Br. at 19. Plaintiff argues the restrictions introduced by defendants’ construction are “neither recited nor disclosed in the intrinsic record.” *Id.* Plaintiff disagrees with the requirement in defendants’ proposed construction a data record must be a “collection of related data.” *Id.* at 20. The specification language cited by defendants does not, plaintiff argues, require data in a data record be related or even consist of more than a single datum. *Id.* (citing ’119 Patent at col. 4 ll. 1–3 (“one data record” consists of “information to be kept secret, such as e.g. biometric data, PIN etc.”), 3–7 (“one data record” represents “*a compression value*, e.g. a CRC, hash, a cryptographic check sum etc.” (emphasis added))). Giving examples of the kinds of data found in a data record does not mean the data is “related” or more than one datum is found there, plaintiff asserts. *Id.* According to plaintiff, the

specification makes the limitation data in the data record be a “collection of related data” incorrect. *Id.*

Plaintiff further disagrees with defendants’ requirement the data record be “contiguous in location.” *Id.* at 20–21. Plaintiff argues defendants misinterpret Figure 5. Pl.’s Resp. Cl. Constr. Br. at 20–21. The figure represents “data records” are stored contiguously, but it does not, according to plaintiff, restrict the data within any data record to being stored in a “contiguous location.” *Id.*

Like defendants, plaintiff cites dictionary definitions to support its construction of the disputed claim term. *Id.* at 21. Plaintiff’s cited definitions are as follows:

Dictionary	Definition
S.M.H. COLLIN, DICTIONARY OF COMPUTING (5th ed. 2004), P. App. Ex. 2 at PA11	“data record” – “one record containing data for use with a program”
ANTHONY CHANDOR ET AL., THE PENGUIN DICTIONARY OF COMPUTERS (2d ed. reprt. 1979), P. App. Ex. 3 at PA18	“data record” – “[a] record containing a unit of data for processing by a computer program”

B. Analysis

1. The Court’s Preliminary Construction

Before the *Markman* hearing, the Court considered the parties’ claim construction briefs and all referenced materials in full in reaching a preliminary construction for this disputed term. The ’119 Patent claims indicate the meaning of “data record.” Data records must be stored in one of two areas: either the “freely readable” storage area or the “protected” storage area. Ex Parte Reexam. Certificate at col. 1 ll. 34–38 (“the storage area that is only readable after an authentication of the data carrier . . . has at least one first data record, and the freely readable storage area has at least one second data record . . .”). Two data records have a relationship between one another: one is allocated to and derivable from the other. *Id.* at col. 1 ll. 37–39 (“one second data record, which is clearly allocated to the first data record and is derivable from the first data record . . .”). Data records must be readable all at once. *Id.* at col. 2 ll. 7–8 (“for a readout of a first data record . . . the reading device reads out a second data record . . .”).

Defendants’ construction introduced three limitations to the term “data record.” Defs.’ Cl. Constr. Br. at 15. Two of these limitations—a data record must be “a collection of related data” and “contiguous in location”—are unsupported by the intrinsic record.

A data record need not contain a “collection of related data.” The specification does give examples of the types of data which could be in a data record. *See* ’119 Patent at col. 4 ll. 1–3 (“one data record” consists of “information to be kept secret, such as e.g. biometric data, PIN etc.”), 3–7 (“one data record” represents “a compression value, e.g. a CRC, hash, a cryptographic check sum etc.”). These descriptions do not introduce a requirement a data record contain a

“collection of related data.” A data record could, for example, contain two unrelated pieces of biometric data and not violate the claim. Additionally, as plaintiff notes, there need not be more than one datum in a data record. Pl.’s Resp. Cl. Constr. Br. at 20. The requirement a data record contain a “collection of related data” is not supported by the claim language or specification.

Additionally, data in a data record need not be “contiguous in location.” Figure 5 depicts the data records themselves as being contiguous in location from 1 to n. ’119 Patent at fig.5. The location of the data records does not have any bearing, however, on how the data inside each record is stored; it could be contiguous, but it need not be.

The plain and ordinary meaning of data record does support the restriction of “treated as a unit.” The claim language requires a data record to be read out all at once. *Ex Parte Reexam. Certificate* at col. 2 ll. 7–8. The claim language additionally describes relationships between data records. *Id.* at col. 1 ll. 37–39. Consistently, the ’119 Patent describes data records as being discrete units having relationships to other parts of the system. The data records are “treated as a unit,” so a construction emphasizing this limitation is warranted. The parties’ extrinsic dictionary definitions above, as well as the two definitions sourced by the Court below, all support the proposition a data record should be “treated as a unit”:

Word	Definition
Data	“information in digital form that can be transmitted or processed”
Record	“a collection of related items of information (as in a database) treated as a unit”

Data, Merriam-Webster.com Dictionary, <https://www.merriam-webster.com/dictionary/data>, (last visited Jan. 5, 2023); *Record*, Merriam-Webster.com Dictionary, <https://www.merriam-webster.com/dictionary/record> (last visited Jan. 5, 2023).

The Court adopted the following preliminary construction: “information in digital form, treated as a unit.”

2. The Court’s Final Construction

At the *Markman* hearing, the parties agreed with the Court’s preliminary construction. Tr. at 86:19–20, 89:7–8. The parties’ arguments at the hearing on this term revolved around whether the storage area where the data records exist is “volatile” or not. *See* Tr. at 86:21–104:13. The Court does not take its construction of this term to have any bearing on the issue of the volatility of “storage areas,” discussed in disputed claim term 1, *supra* Section III. As the parties agree with the Court’s preliminary construction for this claim term, the Court adopts its preliminary construction as final: “information in digital form, treated as a unit.”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
plain and ordinary meaning; no construction necessary	“collection of related data treated as a unit contiguous in location”
Court’s Construction	

“information in digital form, treated as a unit”

VII. Disputed Claim Term #6⁷: “allocated to”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
plain and ordinary meaning; no construction necessary	“assigned to”

This disputed term appears in claims 1 and 14. *See* Defs.’ Cl. Constr. Br. at 21. The following claim limitations highlight selected usage of the term in context:

the reading device, has at least one first data record, and the freely readable storage area has at least one second data record, which is clearly *allocated to* the first data record and is derivable from the first data record,

Ex Parte Reexam. Certificate at col. 1 ll. 35–39,

the reading device reads out a second data record, which is *allocated to* the first data record,

id. at col. 2. ll. 8–9.

A. Parties’ Arguments

Defendants argue the disputed claim term “allocated to” should be construed as “assigned to” because a PHOSITA would understand the term as such considering the intrinsic and extrinsic evidence. *See* Defs.’ Cl. Constr. Br. at 21. The specification refers to the word “allocated” only twice, defendants posit, and each reference describes a data record in the freely readable storage area being “allocated to its respective data record” in the protected storage area. *Id.* (internal quotations omitted) (quoting ’119 Patent at col. 4 ll. 1–9). Figure 5, reproduced below, illustrates this with an arrow pointing from each data record in the freely readable storage area (“Data n”) to its respective record in the secured storage area (“[Hash n”]). *Id.* (citing ’119 Patent at fig.5). Defendants argue the specification’s characterization of this “allocation” would lead a PHOSITA to understand “allocated to” to mean “assigned to.” *Id.*

⁷ For clarity, the Court addresses claim term 6 before term 5. *See supra* note 3.

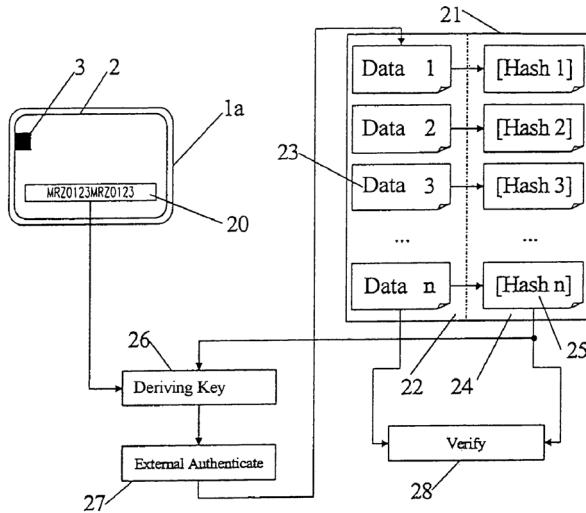


Fig. 5

The prosecution history, defendants argue, further supports their construction. *Id.* When distinguishing the prior art, the patentee said “[t]he password is also not *allocated* to a specific data record as required by claim 1 since the password is *assigned* to a zone in the memory which contains multiple data records.” *Id.* Ex. 3 (’119 Patent, *Applicant Arguments Made in an Amendment*, May 3, 2010) at 41 (emphasis added). Defendants argue this statement uses “allocated to” and “assigned to” interchangeably, showing plaintiff understood the terms to mean the same thing in the context of this patent. *Defs.’ Cl. Constr Br.* at 21.

Defendants also point to extrinsic evidence to support their construction. *Id.* at 22. The dictionary definitions cited by defendants are as follows:

Dictionary	Definition
MODERN DICTIONARY OF ELECTRONICS (6th ed. 1988) (Ex. 6 at 9)	“allocate” – “In a computer, to assign storage locations to main routines and subroutines, thus fixing the absolute values of symbolic addresses.”
IBM DICTIONARY OF COMPUTING (10th ed. 1993) (Ex. 6 at 12 and 14)	“storage allocation” – “The assignment of storage areas to specified data”; “allocate” – “To assign a resource, such as a disk or a diskette file, to perform a task.”
MCGRAW HILL DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS (5th ed. 1994) (Ex. 6 at 19)	“allocate” – “To assign a portion of a resource to an activity.”
IEEE STANDARD DICTIONARY OF ELECTRICAL AND ELECTRONICS TERMS (1984) (Ex. 6 at 22–23)	“allocation” and “storage allocation” – “The assignment of sequences of data or instructions to specified blocks of storage”

Defendants argue a construction is required because the parties have a dispute about

whether “assigned to” reflects the plain meaning of “allocated to” as used in the patent. *Id.*; see *O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1361 (Fed. Cir. 2008).

Plaintiff argues the plain and ordinary meaning of “allocated to” should not be narrowly construed as “assigned to.” Pl.’s Resp. Cl. Constr. Br. at 21. The plain and ordinary meaning of “allocated to,” plaintiff argues, includes “associated with.” *Id.* During prosecution, plaintiff used “allocated to” and “associated with” interchangeably, and it argues such usage is not inconsistent with the claims or the specification. *Id.* at 22 (citing Jt. Cl. Constr. App. Ex. 3 (’119 Patent File History) at JA249). Finally, plaintiff argues the extrinsic dictionaries relied upon by defendants do not consistently support their construction. *Id.* For example, one dictionary defines “allocate” in part as “[t]o place a portion of a computer memory or a peripheral unit under control of a computer program[.]” *Id.* (internal quotations omitted) (quoting Defs.’ Cl. Constr. Br. Ex. 6 at 19).

B. Analysis

1. The Court’s Preliminary Construction

Before the *Markman* hearing, the Court considered the parties’ claim construction briefs and all referenced materials in full in reaching a preliminary construction for this disputed term. The claim language describes a single data record in the protected storage area being allocated to a single data record in the unprotected storage area. *See Ex Parte Reexam. Certificate* at col. 1 ll. 35–39, col. 2 ll. 7–9. Figure 5, as defendants point out, depicts the “allocated” relationship with an arrow pointing from one discrete data record in the protected area to another discrete data record in the unprotected area. ’119 Patent at fig.5.

The specification supports the understanding of a one-to-one relationship. “The freely readable storage area . . . contains at least *one* data record . . . , which is unequivocally allocated to *the respective* data record” *Id.* at col. 4 ll. 3–5 (emphasis added). The use of singular language (“*one* data record . . . allocated to *the respective* data record”) emphasizes the distinct nature of the records being paired together. By reinforcing the understanding conveyed by the claim language and Figure 5, the relationship disclosed with “allocated to” is meant to be a one-to-one relationship.

The parties disagree about the proper scope of “allocated to” as used in the ’119 Patent. *See* Defs.’ Cl. Constr. Br. at 21–22; Pl.’s Resp. Cl. Constr. Br. at 21–22. A construction of “plain and ordinary meaning” in this context does not resolve the dispute and is therefore not adequate. *O2 Micro*, 521 F.3d at 1361 (“A determination that a claim term ‘needs no construction’ or has the ‘plain and ordinary meaning’ may be inadequate when a term has more than one ‘ordinary’ meaning or when reliance on a term’s ‘ordinary’ meaning does not resolve the parties’ dispute.”).

As discussed above, a PHOSITA would understand “allocated to,” as used in the ’119 Patent, to describe a one-to-one relationship. *See Ex Parte Reexam. Certificate* at col. 1 ll. 35–39, col. 2 ll. 7–9; ’119 Patent at col. 4 ll. 1–16, fig.5. The Court preliminarily agreed with defendants’ construction because “assigned to” narrows the meaning of “allocated to” to clarify

one data record cannot be assigned to multiple data records or vice versa. *See* Defs.’ Cl. Constr. Br. at 21–22. This understanding is supported by extrinsic evidence, including the four technical dictionaries cited by defendants which define “allocate” using the word “assign” or “assignment.” *Id.* at 22. The Court therefore adopted the following preliminary construction: “assigned to.”

2. The Court’s Final Construction

At the *Markman* hearing, the Court provided the parties with the Court’s preliminary construction. Tr. at 104:22–23.

Plaintiff prefers a construction of the disputed term “allocated to” which encompasses “associated with.” Pl.’s Resp. Cl. Constr. Br. at 21. At the *Markman* hearing, plaintiff acknowledged “assign” and “associate” have different meanings. Tr. at 106:6–9. Defendants clarified their preference for “assigned to” over “allocated to” or “associated with” is because “assigned to” emphasizes the one-to-one relationship between the data records. Tr. at 109:13–17 (“[I]n our view, it clarif[ies] the . . . one-to-one relationship[.]”). Plaintiff clarified its preference for the original term “allocated to” is because it does not require the relationship be one-to-one. Tr. at 111:22–24 (“[A]lllocate’ is that there is a relationship or there is an association. *It needn’t be a one-to-one relationship.*” (emphasis added)). A construction of plain and ordinary meaning does not resolve this dispute and is accordingly improper. *See O2 Micro*, 521 F.3d at 1361.

A PHOSITA reads the disputed term in the context of the intrinsic evidence to understand what its scope in the patent is. *See DeMarini Sports, Inc. v. Worth, Inc.*, 239 F.3d 1314, 1324 (Fed. Cir. 2001). Throughout the claims and specification, the “allocated to” relationship between the data records is described as a one-to-one relationship. The claim language describes “one second data record . . . clearly allocated to the first data record[.]” Ex Parte Reexam. Certificate at col. 1 ll. 37–38 (emphasis added); *see also id.* at col. 2 ll. 8–9. The specification only uses the word “allocated” twice, and in both instances this same one-to-one relationship is being described. ’119 Patent at col. 4 ll. 1–16. Figure 5, which depicts this “allocated” relationship, uses an arrow pointing from exactly one data record to exactly one data record. ’119 Patent at fig.5. The context of the intrinsic evidence therefore uniformly supports an understanding of “allocated to” as describing a one-to-one relationship.

The one-to-one relationship described in the ’119 Patent by the phrase “allocated to” is captured by defendants’ proposed construction “assigned to.” This understanding is bolstered by the extrinsic evidence cited by defendants—four technical dictionaries which all define allocate, at least in part, using the word “assign” or “assignment.” *See* Defs.’ Cl. Constr. Br. at 22. The Court accordingly adopts its preliminary construction as final: “assigned to.”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
plain and ordinary meaning; no construction necessary	“assigned to”
Court’s Construction	
“assigned to”	

VIII. Disputed Claim Term #5: “clearly allocated”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
plain and ordinary meaning; no construction necessary or “allocated,” or “unequivocally allocated”	indefinite

This disputed term appears in claims 1. *See* Defs.’ Cl. Constr. Br. at 17. The following claim limitation highlights selected usage of the term in context:

the reading device, has at least one first data record, and the freely readable storage area has at least one second data record, which is *clearly allocated* to the first data record and is derivable from the first data record

Ex Parte Reexam. Certificate at col. 1 ll. 35–39.

A. Parties’ Arguments

Defendants argue the disputed claim term “clearly allocated” renders claim 1 indefinite. *See* Defs.’ Cl. Constr. Br. at 17–21. The word “clearly,” a term of degree, is not given an objective standard in the claim or specification, so defendants argue a PHOSITA would not know how “clearly allocated” differs from “allocated.” *Id.* at 18. Defendants state, “[a] claim that uses a ‘word of degree’ is indefinite unless the patent provides ‘some standard for measuring that degree.’” *Id.* at 8 (quoting *Biosig Instruments, Inc. v. Nautilus, Inc.*, 783 F.3d 1374, 1378 (Fed. Cir. 2015)).

While claim 1 of the ’119 Patent uses the phrase “clearly allocated,” claim 14 uses the word “allocated” without the modifier “clearly.” Ex Parte Reexam. Certificate at col. 2 ll. 8–9 (“a second data record, which is *allocated* to the first data record” (emphasis added)). Defendants argue “[d]ifferent claim terms are presumed to have different meanings[,]” and because the patent does not clarify how “clearly allocated” differs from “allocated,” the inclusion of “clearly allocated” in claim 1 renders the claim indefinite. Defs.’ Cl. Constr. Br. at 19, 20 (internal quotations omitted) (quoting *Bd. of Regents of the Univ. of Texas Sys. v. BENQ Am. Corp.*, 533 F.3d 1362, 1371 (Fed. Cir. 2008)). The ’119 Patent does not provide any clarity on the distinction between “allocated” and “clearly allocated,” which defendants argue makes the disputed claim term indefinite. *Id.* at 19–21.

Plaintiff argues the phrase “clearly allocated” has the same meaning as “allocated,” because adding the word “clearly” does not change the meaning of “allocated.” Pl.’s Resp. Cl. Constr. Br. at 23–25. Plaintiff argues the Federal Circuit has found a modifying term can be considered “inartful surplusage” if “[n]o ‘speculation’ is necessary to understand” the term. *Id.* at 23 (internal quotations omitted) (quoting *Pulse Elecs., Inc. v. U.D. Elec. Corp.*, 860 F. App’x 735, 740 (Fed. Cir. 2021)). Such surplusage does not necessarily render a claim term indefinite, plaintiff asserts. *Id.* Plaintiff argues “where neither the plain meaning nor the patent itself commands a difference in scope between two terms, they may be construed identically.” *Id.*

(internal quotations omitted) (quoting *Power Mosfet Techs., L.L.C. v. Siemens AG*, 378 F.3d 1396, 1410 (Fed. Cir. 2004)). Plaintiff believes such an identical construction is appropriate for the use of “clearly allocated” and “allocated” in the ’119 Patent. *Id.* at 23–25.

Plaintiff argues the use of “allocated” and “clearly allocated,” considering the context of the patent, are referring to the same thing. *Id.* at 24. Claim 1 recites “at least one second data record, which is *clearly allocated* to the first data record[.]” and claim 14 recites “a second data record, which is *allocated* to the first data record[.]” Ex Parte Reexam. Certificate at col. 1 ll. 37–38, col. 2 ll. 8–9 (emphasis added). According to plaintiff, this allocation is the one depicted in Figure 5 and in the specification, which says “at least one data record . . . is *unequivocally allocated* to the respective data record[.]” ’119 Patent at col. 4 ll. 4–5 (emphasis added); Pl.’s Resp. Cl. Constr. Br. at 24. Plaintiff argues a PHOSITA would see “allocated,” “clearly allocated,” and “unequivocally allocated” refer generally to the same association between data records. Pl.’s Resp. Cl. Constr. Br. at 24. The term “clearly allocated” requires no construction, according to plaintiff, for a PHOSITA to understand it has the same meaning as “allocated.” *Id.* at 24–25.

B. Analysis

1. The Court’s Preliminary Construction

Before the *Markman* hearing, the Court considered the parties’ claim construction briefs and all referenced materials in full in reaching a preliminary construction for this disputed term. The language used in claim 1 is “second data record, which is *clearly allocated* to the first data record[.]” Ex Parte Reexam. Certificate at col. 1 ll. 37–38 (emphasis added). Claim 14 reads “second data record, which is *allocated* to the first data record[.]” *Id.* at col. 2 ll. 8–9 (emphasis added). What, if anything, is different between the allocations described in claims 1 and 14 is not clear from reading the claims.

The specification does not distinguish between “allocated” and “clearly allocated.” The word “clearly” does not even appear in the specification. *See* Defs.’ Cl. Constr. Br. at 18. The specification instead introduces a new term, not found in the claim language: “unequivocally allocated[.]” ’119 Patent at col. 4 ll. 4–5. The same relationship is later described using “allocated” with no modifier, in the same way as claim 14. *Id.* at col. 4 l. 12.

When “[n]o ‘speculation’ is necessary to understand” a certain modifying term, the term “is merely an instance of inartful surplusage rather than a fatal ambiguity.” *Pulse Elecs.*, 860 F. App’x at 740. While surplusage is generally disfavored, it can be allowed if construing two terms the same way makes sense in the context of the patent in question. *Power Mosfet*, 378 F.3d at 1410 (construing “contacting” and “directly contacting” to have the same meaning in the context of the patent at dispute).

While perhaps inartful, the ’119 Patent is communicating the same relationship when it recites “clearly allocated” in claim 1 and “allocated” in claim 14. *See* Ex Parte Reexam. Certificate col. 1 ll. 37–38, col. 2 ll. 8–9. This congruity is reinforced by the specification, which first describes the relationship between the data records as “unequivocally allocated” and then

uses just “allocated” to describe the same relationship. ’119 Patent at col. 4 ll. 4–12. “Allocated” and “clearly allocated” are best interpreted as meaning the same thing in the context of the ’119 Patent. Even if absolute certainty is not attainable in this instance, only reasonable certainty is required to rule out indefiniteness. *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 910 (2014). Finding “[n]o ‘speculation’ is necessary to understand” “clearly allocated,” the Court preliminarily adopted the same construction for “clearly allocated” as it adopted for “allocated to”: “assigned to.” *Pulse Elecs.*, 860 F. App’x at 740.

2. The Court’s Final Construction

At the *Markman* hearing, plaintiff reiterated its opposition to a finding of indefiniteness. Tr. at 116:18–22. Plaintiff argued terms which are technically different can be construed the same way if it makes sense in the context of the patent. *See Power Mosfet*, 378 F.3d at 1410.

In *Nautilus*, the Supreme Court clarified a claim is indefinite “if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” 572 U.S. at 901. *Power Mosfet* and other Federal Circuit cases in which the court construed different terms the same way predate *Nautilus*, so defendants believe the Court should not follow the earlier cases. Tr. at 125:6–14.

The disputed term “clearly allocated,” however, is not indefinite under the standard set in *Nautilus*. The standard in *Nautilus* specifically asks the Court to read the claims in light of the specification. 572 U.S. at 901. As discussed above, the specification uses “allocated” and “unequivocally allocated” to describe the same association between two data records. ’119 Patent at col. 4 ll. 1–12. A PHOSITA would understand only one relationship-type is described by the terms “allocated,” “clearly allocated,” and “unequivocally allocated.” The modifying adverbs are “inartful surplusage” but do not modify the underlying meaning. *Pulse Elecs.*, 860 F. App’x at 740. Defendants could not articulate how “clearly” could modify “allocated” and give it a different meaning. Tr. at 126:3–128:4 (“THE COURT: . . . [H]ow is ‘clearly allocated’ and ‘allocated to’ different? [DEFENDANTS]: . . . I would just point to the word ‘clearly’ and the fact that defendants are arguing that ‘clearly’ limits the claim term and that it can’t just be disregarded. . . . [T]he crux of our view is just that we don’t know what ‘clearly’ means and that’s precisely the reason . . . we’re alleging indefiniteness here.”). The Court accordingly adopts its preliminary construction as final: “assigned to.”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction	
plain and ordinary meaning; no construction necessary	indefinite	
or “allocated,” or “unequivocally allocated”	Court’s Construction	
“assigned to”		

IX. Disputed Claim Term #7A: “authentication of the data carrier and the reading device”

Plaintiff's Proposed Construction	Defendants' Proposed Construction
plain and ordinary meaning; no construction necessary	“achieving verification of identify [of the data carrier and the reading device, by the other] by means of a previously derived cryptographic key”

This disputed term appears in claim 1. *See* Defs.' Cl. Constr. Br. at 22. The following claim limitation highlights selected usage of the term in context:

at least one storage area that is only readable after an *authentication of the data carrier and the reading device*, wherein the storage area that is only readable after an authentication of the data carrier, and the reading device, has at least one first data record . . .

Ex Parte Reexam. Certificate at col. 1 ll. 31–36.

A. Parties' Arguments

Defendants argue the disputed claim term requires clarification on the use of “authentication.” Defs.' Cl. Constr. Br. at 23. Defendants first argue “authentication” is the process for verifying identity and is not accomplished until verification is complete. *Id.* at 23–24; *see also* '119 Patent at col. 4 ll. 55–56 (“After a successful authentication the data record 23 can be read out.”). Defendants further argue this verification is mutual between the data carrier and the reading device, presenting similar arguments as presented for disputed claim term 2. *Id.* at 24–26. Lastly, defendants argue authentication requires the use of a previously derived cryptographic key. *Id.* at 26–27. Defendants cite Figure 5 showing a cryptographic key derived before authentication for support. *Id.* Defendants also argue the third procedure step explains authentication is performed “by means of the derived cryptographic key.” *Id.* at 27 (quoting '119 Patent at col. 4 ll. 27–42). Figure 6 indicates the “get-challenge” authentication also requires utilization of a cryptographic key. Defs.' Reply Cl. Constr. Br. at 11–12.

Plaintiff asserts “authenticat[e/ion]” has a plain and ordinary meaning of “verif[y/ication of] identity[.]” Pl.'s Resp. Cl. Constr. Br. at 26 (citing '119 Patent at col. 4 ll. 50–53). Plaintiff explains the word “achieving” is not present in the specification and asserts its addition is unfounded, is not supported in the intrinsic or extrinsic record, and adds confusion. *Id.* at 26–27 (citing *3rd Eye Surveillance, LLC v. United States*, 140 Fed. Cl. 39, 63–64 (2018)). Plaintiff also asserts the '119 Patent “makes clear” other methods beyond a derived cryptographic key can be used, specifically pointing to Figure 6 which demonstrates a challenge and response principle not requiring a cryptographic key. *Id.* at 27. Lastly, plaintiff argues against an interpretation requiring mutual authentication and presents similar arguments as given for disputed claim term 2. *Id.* at 27–28. Plaintiff further disputes defendants' characterization of a need for a derived key in Figure 6 but states, regardless of Figure 6, the specification allows for other methods. Pl.'s Surreply Cl. Constr. Br at 11.

B. Analysis

1. The Court’s Preliminary Construction

Before the *Markman* hearing, the Court considered the parties’ claim construction briefs and all referenced materials in full in reaching a preliminary construction for this disputed term. The parties agree authentication has a plain and ordinary meaning, supported by intrinsic and extrinsic evidence, consistent with the construction of disputed claim term 2, *supra* Section IV: “verification of identity.” Defs.’ Cl. Constr. Br. at 23–24; Pl.’s Resp. Cl. Constr. Br. at 26; *see* ’119 Patent at col. 4 ll. 28–42. The parties disagree, however, over the following: (1) whether the authentication is necessarily mutual; (2) whether the authentication must be successful; and (3) whether authentication requires a previously derived cryptographic key. *See* Defs.’ Cl. Constr. Br. at 23–27; Pl.’s Resp. Cl. Constr. Br. at 26–28. The Court already decided the issue of mutuality with disputed claim term 2, *supra* Section IV, so the Court will not readdress those arguments here.

First, the Court addressed whether authentication implies identity verification is successful. Claim 1 states the “storage area . . . is only readable *after* an authentication[.]” Ex Parte Reexam. Certificate at col. 1 ll. 31–32 (emphasis added). The specification teaches: “*After* a *successful* authentication the data record 23 can be read out.” ’119 Patent at col. 4 ll. 55–56 (emphasis added). It would defy logic to read the ’119 Patent, which requires authentication before revealing “secret” information, ’119 Patent at col. 4 ll. 1–3, as not requiring identity verification be “successful” or “achieved” prior to revealing said secret information. *See* Defs.’ Cl. Constr. Br. at 23–24. Using the plain meaning of these words, if an identity is not successfully verified, then there is *no* authentication—the device subject to verification is affirmatively not authenticated. Where claim 1 states a storage area is only readable after authentication, the claim limitation necessarily implies the storage area is not readable if authentication fails. Ex Parte Reexam. Certificate at col. 1 ll. 31–32. A PHOSITA would reasonably understand “verification of identity,” the ordinary meaning of “authentication,” as indicating a successful authentication. The success or achievement of identity verification is part and parcel of “authentication”; the Court therefore found it unnecessary to include such language in its preliminary construction.

Second, the Court addressed whether this disputed claim term limits how the authentication is achieved. The claim term does not address how authentication is achieved, and neither party argues it does. *Id.* Defendants argue the specification requires a cryptographic key derived before authentication when it says authentication occurs “by means of the derived cryptographic key.” ’119 Patent at col. 4 ll. 27–42. Plaintiff responds another method not using a derived key is demonstrated in Figure 6. Further, the specification indicates other known methods of authentication may be used in place of the methods described: “It is obvious that further authentication steps, for example for the mutual authentication, and other methods for authentication can be used.” *Id.* at col. 4 ll. 39–42. Although the patent describes the use of derived cryptographic keys and “get/challenge” methods of authentication, the specification does not limit the claims to such. The claims may be “read in view of the specification,” *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995), *aff’d*, 517 U.S. 370 (1996), but preferred embodiments are not read “into the claims absent a clear indication in the intrinsic record that the patentee intended the claims to be so limited.” *Liebel-Flarsheim Co. v. Medrad*,

Inc., 358 F.3d 898, 913 (Fed. Cir. 2004). There is no such indication here, so the plain and ordinary meaning of authentication will control. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005).

The Court adopted the following preliminary construction: “identity-verification of the data carrier and the reading device.”

2. The Court’s Final Construction

At the *Markman* hearing, the Court provided the parties with the Court’s preliminary construction. Tr. at 130:4–7.

Plaintiff agreed with the Court’s preliminary construction. Tr. at 142:18–20. Defendants maintained their position authentication must be based on a previously derived cryptographic key. Tr. at 130:25–132:15. Defendants admitted, however, the ’119 Patent teaches “several authentication methods” and claim 1 is not limited to one particular authentication method. Tr. at 132:20–135:19, 138:21–25 (“THE COURT: . . . [W]ith respect to the kind of authentication, a cryptographic key authentication, none of that is in the claim language. [DEFENDANTS]: That’s correct . . . Not expressly.”). Defendants proposed the claim term should then be construed as: “Identity-verification of the data carrier and the reading device, which for key-based systems occurs after key derivation.” Tr. at 136:1–3. Defendants’ primary concern is “authentication” will be expanded to consume steps beyond “identity verification” if not expressly limited. Tr. at 149:20–151:2.

First, the Court notes it is inappropriate to read limitations into the plain and ordinary meaning of a claim term without “a clear and unmistakable disavowal” of claim scope, even where the specification teaches just one embodiment. *Ethanol Boosting Sys., LLC v. Ford Motor Co.*, No. 2021-1949, 2022 WL 2798395, at *2 (Fed. Cir. July 18, 2022). As such, the Court declines to import limitations into this term from the specification based on cryptographic key derivation. This case is not like *Nystrom v. TREX Co.*, 424 F.3d 1136, 1145 (Fed. Cir. 2005), where the patentee was seeking to expand the scope of a claim term beyond the support of the intrinsic record and beyond the term’s ordinary meaning. The parties agree the ordinary meaning of “authentication” is “identity verification,” and the patent’s specification explicitly states “[i]t is obvious . . . other methods for authentication can be used.” ’119 Patent at col. 4 ll. 39–42. Accordingly, the Court construes this term according to its plain and ordinary meaning and adopts its preliminary construction as final: “identity-verification of the data carrier and the reading device.” *See Phillips*, 415 F.3d at 1312–13.

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
plain and ordinary meaning; no construction necessary	“achieving verification of identify [of the data carrier and the reading device, by the other] by means of a previously derived cryptographic key”
Court’s Construction	
“identity-verification of the data carrier and the reading device”	

X. Disputed Claim Term #7B: “at least a one-sided authentication between the reading device and the data carrier”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
plain and ordinary meaning; no construction necessary	“achieving at least a one-sided verification of identity [between the reading device and the data carrier] by means of a previously derived cryptographic key”

This disputed term appears in claim 14. *See* Defs.’ Cl. Constr. Br. at 22. The following claim limitation highlights selected usage of the term in context:

effecting *at least a one-sided authentication between the reading device and the data carrier*, wherein the authentication is effected in such a way that it requires the use of both contactless antenna-based data transmission and optical data transmission that together define two data transmission channels.

Ex Parte Reexam. Certificate at col. 2 ll. 11–16.

A. Parties’ Arguments

In the briefs, the parties argued the constructions of terms 7A–7D together, presenting no arguments unique to any one term. *See* Defs.’ Cl. Constr. Br. at 23–27; Pl.’s Resp. Cl. Constr. Br. at 26–28. As such, the Court refers to the parties’ arguments section of disputed term 7A, *supra* Section IX.A, in construing this term.

B. Analysis

At oral argument, the parties agreed the Court’s “construction for authenticate and authentication” from disputed claim term 7A should apply to the constructions of terms 7B–7D. Tr. at 130:8–22. Accordingly, as agreed by the parties, the Court incorporates by reference the analysis of disputed claim term 7A and construes this term consistently with the construction of term 7A. Tr. at 151:3–153:17.

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
plain and ordinary meaning; no construction necessary	“achieving at least a one-sided verification of identity [between the reading device and the data carrier] by means of a previously derived cryptographic key”
Court’s Construction	
“at least a one-sided identity-verification between the reading device and the data carrier”	

XI. Disputed Claim Term #7C: “authentication between the reading device and the data carrier is effected”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
-----------------------------------	-----------------------------------

plain and ordinary meaning; no construction necessary	“achieving verification of identity [between the reading device and the data carrier] by means of a previously derived cryptographic key”
---	---

This disputed term appears in claim 22. *See* Defs.’ Cl. Constr. Br. at 23. The following claim limitation highlights selected usage of the term in context:

The method according to claim 14, wherein in a second step, the reading device forms a value derived from the readout data and a secret key; in a third step, on the basis of the derived value, the *authentication between the reading device and the data carrier is effected*; and in a fourth step, the first data record is read out by the reading device.

’119 Patent at col. 8 ll. 4–10.

A. Parties’ Arguments

In the briefs, the parties argued the constructions of terms 7A–7D together, presenting no arguments unique to any one term. *See* Defs.’ Cl. Constr. Br. at 23–27; Pl.’s Resp. Cl. Constr. Br. at 26–28. As such, the Court refers to the parties’ arguments section of disputed term 7A, *supra* Section IX.A, in construing this term.

B. Analysis

At oral argument, the parties agreed the Court’s “construction for authenticate and authentication” from disputed claim term 7A should apply to the constructions of terms 7B–7D. Tr. at 130:8–22. Accordingly, as agreed by the parties, the Court incorporates by reference the analysis of disputed claim term 7A and construes this term consistently with the construction of term 7A. Tr. at 151:3–153:17.

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
plain and ordinary meaning; no construction necessary	“achieving verification of identity [between the reading device and the data carrier] by means of a previously derived cryptographic key”
Court’s Construction	
“identity-verification between the reading device and the data carrier is effected”	

XII. Disputed Claim Term #7D: “authenticate the contactless data carrier”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
plain and ordinary meaning; no construction necessary	“achieving verification of identity [of the contactless data carrier by the reader] by means of a previously derived cryptographic key”

This disputed term appears in claim 24. *See* Defs.’ Cl. Constr. Br. at 23. The following claim limitation highlights selected usage of the term in context:

wherein the reading device is configured to *authenticate the contactless data carrier* using two data transmission channels defined by a contactless antenna-based transmission and an optical data transmission.

Ex Parte Reexam. Certificate at col. 2 ll. 32–36.

A. Parties’ Arguments

In the briefs, the parties argued the constructions of terms 7A–7D together, presenting no arguments unique to any one term. *See* Defs.’ Cl. Constr. Br. at 23–27; Pl.’s Resp. Cl. Constr. Br. at 26–28. As such, the Court refers to the parties’ arguments section of disputed term 7A, *supra* Section IX.A, in construing this term.

B. Analysis

At oral argument, the parties agreed the Court’s “construction for authenticate and authentication” from disputed claim term 7A should apply to the constructions of terms 7B–7D. Tr. at 130:8–22. Accordingly, as agreed by the parties, the Court incorporates by reference the analysis of disputed claim term 7A and construes this term consistently with the construction of term 7A. Tr. at 151:3–153:17.

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
plain and ordinary meaning; no construction necessary	“achieving verification of identity [of the contactless data carrier by the reader] by means of a previously derived cryptographic key”
Court’s Construction	
“verify the identity of the contactless data carrier”	

XIII. Disputed Claim Term #8: “derivable from the first data record”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
plain and ordinary meaning; no construction necessary	“obtainable solely from the first data record”

This disputed term appears in claim 1. *See* Defs.’ Cl. Constr. Br. at 27. The following claim limitation highlights selected usage of the term in context:

the freely readable storage area has at least one second data record, which is clearly allocated to the first data record and is *derivable from the first data record*, wherein an authentication requires the use of the two data transmission channels.

Ex Parte Reexam. Certificate at col. 1 ll. 36–41.

A. Parties' Arguments

The parties' dispute over this term centers around the meaning of "derivable." Defendants assert by claiming the second data record is "derivable from the first data record[.]" and not mentioning "any other source of information[.]" "derivable from" should be construed to mean "obtainable solely from." *Defs.' Cl. Constr. Br.* at 27–28. Defendants argue plaintiff narrowed its claim in prosecution by arguing prior art did not teach to associate "a data record with the record from which it is derived." *Id.* at 28 (internal quotations omitted) (quoting Ex. 3 ('119 Patent, *Applicant Arguments Made in an Amendment*, May 3, 2010) at 41). Defendants reason the use of a singular shows the second record is obtainable solely from the first. *Id.* Defendants also note the specification teaches a compression value is formed from the first data record, which should match the second data record. *Id.* at 28–29. Defendants then reason if the second value could be derived from other information, authentication would not be possible. *Id.*

Plaintiff argues "derivable" "does not require construction as it has a plain and ordinary meaning of obtainable[.]" *Pl.'s Resp. Cl. Constr. Br.* at 28. Plaintiff argues the intrinsic record teaches derivation can be from more than one source. *Id.* In support, plaintiff references both claim 22 which states a value is "derived from" both "the read-out data *and* a secret key" and the specification which directs a cryptographic key can be derived from both a data record and optically readable information. *Id.* Plaintiff emphasizes "solely" is not anywhere in the intrinsic record, is unsupported by defendants' own extrinsic evidence, and should be rejected. *Id.* at 29.

B. Analysis

1. The Court's Preliminary Construction

Before the *Markman* hearing, the Court considered the parties' claim construction briefs and all referenced materials in full in reaching a preliminary construction for this disputed term. The parties dispute whether the claim term, "derivable from the first data record," should be construed to clarify the derivable data record is derivable *solely* from the "first data record." Defendants argue the patent's teaching, consistent with dictionary definitions, means the Court should construe the term to add "solely." *Defs.' Cl. Constr. Br.* at 27–29. Plaintiff argues the plain and ordinary meaning of derivable does not limit it to "solely," and the patentee did not disclaim the ordinary meaning. *Pl.'s Resp. Cl. Constr. Br.* at 28–29.

The claim term describes a data record in the freely readable storage area which is "derivable from the first data record[.]" Ex Parte Reexam. Certificate at col. 1 ll. 36–39. As defendants note, the word "record" is singular, so the claim only identifies one thing the data record is derivable from. Importantly, however, the claim term uses "derivable," as opposed to "derived." *Id.* "Derivable" is the adjective form of the verb "derive"; to say the second data record is "derivable" from the first is to say the second data record can be derived from the first but is not required to be so. *Derive*, Oxford Dictionary of English, (3d ed. 2010). By contrast, if the claim term had said the second data record is *derived* from the first, such claim language would plainly foreclose the possibility of deriving the second data record from anywhere other

than the listed source.

Several areas of the specification support the notion the patentee understood “derive” not to be exclusive. In claim 22, a value is “derived from” both “the read-out data *and* a secret key[.]” ’119 Patent at col. 8 ll. 5–6 (emphasis added). The specification also teaches a cryptographic key which is derived from both a data record and optically readable information. *Id.* at col. 4 ll. 17–19. The patent teaches something may be derived from more than one source, so it would be odd to construe “derivable”—a more inclusive adjective—as more limited than “derived.”

Defendants argue plaintiff disclaimed a broader meaning of the claim term in patent prosecution. Defs.’ Cl. Constr. Br. at 28. In distinguishing the prior art, plaintiff emphasized the prior art did not teach to associate “a data record with the record from which it is derived.” *Id.* (internal quotations omitted) (quoting Ex. 3 (’119 Patent, *Applicant Arguments Made in an Amendment*, May 3, 2010) at 41). Though plaintiff distinguished this patent from the prior art by acknowledging the second data record may be derived from the first, plaintiff did not explain in prosecution history the second data record is *solely* derivable from the first as defendants argue. *Id.* The prosecution history does not disclaim the possibility the data record is derivable from other sources.

Plaintiff did not “clearly express an intent” to redefine “derivable.” *Thorner v. Sony Computer Ent. Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012) (internal quotations omitted) (quoting *Helmsderfer v. Bobrick Washroom Equip., Inc.*, 527 F.3d 1379, 1381 (Fed. Cir. 2008)). Nor did plaintiff include “in the specification expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope.” *Id.* at 1365–67 (internal quotations omitted) (quoting *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002)) (“To constitute disclaimer, there must be a clear and unmistakable disclaimer.”). “It is not enough for a patentee to simply disclose a single embodiment or use a word in the same manner in all embodiments”—absent more, the plain and ordinary meaning controls. *Id.* For these reasons, the Court preliminarily declined to read in the limitation of “derivable *solely* from” as defendants advocate. The parties agree the plain and ordinary meaning of “derivable” is “obtainable.” As such, the Court adopted the following preliminary construction: “plain meaning or obtainable from the first data record.” *See id.* at 1367 (“The patentee is free to choose a broad term and expect to obtain the full scope of its plain and ordinary meaning unless the patentee explicitly redefines the term or disavows its full scope.”).

2. The Court’s Final Construction

At the *Markman* hearing, defendants explained what they intend the importation of “solely” into the claim construction to modify:

It’s not that . . . the first data record . . . is the only place that [the second data record] can come from, but that . . . when you are obtaining it from the first data record, you can obtain it from the first data record alone. You’re not obtaining it from . . . the first data record *and something else*. You’re deriving it from the first data record itself, [and] that is sufficient for the derivation process.

Tr. at 162:1–12. To support their proposed construction, defendants cited *Homeland Housewares, LLC v. Whirlpool Corp.*, which holds: “[W]hen a patentee uses a claim term throughout the entire patent specification, in a manner consistent with only a single meaning, he has defined that term ‘by implication.’” 865 F.3d 1372, 1377 (Fed. Cir. 2017) (internal quotations omitted) (quoting *Bell Atl. Network Servs., Inc. v. Covad Commc’ns Grp., Inc.*, 262 F.3d 1258, 1271 (Fed. Cir. 2001)); *see* Tr. at 163:19–24. Defendants seemingly retreated from the proposed construction in their briefs. *See* Defs.’ Cl. Constr. Br. at 27–28.

First, if government counsel’s arguments about defendants’ proposed construction of this term are correct, then defendants have not explained why the word “solely” must be included in the construction to resolve this dispute. Under the term’s plain and ordinary meaning, the second data record “can [be] obtain[ed] from the first data record alone.” Tr. at 162:6–7. Contrary to defendants’ arguments, however, under the term’s plain and ordinary meaning, the second data record can also be derived from other sources, or multiple sources at once. “The patentee is free to choose a broad term and expect to obtain the full scope of its plain and ordinary meaning unless the patentee explicitly redefines the term or disavows its full scope.” *Thorner*, 669 F.3d at 1367. Second, though defendants argue plaintiff defined “derivable” by implication, defendants do not explain how. *See* Tr. at 163:19–24. In both claim 22 and the specification, the patent uses “derived” and “derivable” in a manner suggesting plaintiff understood “derivable from” did *not* mean “obtainable solely from.” ’119 Patent at col. 4 ll. 17–19, col. 8 ll. 5–6. The patent teaches something may be derived from more than once source, so a PHOSITA would not read this claim limitation to be as limiting as defendants suggest.

The Court agrees with plaintiff. The ordinary meaning of this claim language is “readily apparent.” *O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1360 (Fed. Cir. 2008). Substituting “derivable” from this claim term, the word chosen by the patentee, for the synonym “obtainable,” “does not resolve the parties’ dispute.” *Id.* at 1361; Tr. at 157:18–158:9 (plaintiff’s counsel agreeing with the Court’s preliminary construction but noting, “the term ‘derivable’ and the term ‘obtainable’ are the same[, s]o . . . swapping one term for another really isn’t getting at the issue.”). The parties do not dispute the ordinary meaning of “derivable”; rather, they dispute whether the word “solely” should be construed into this claim limitation. As the Court answers this dispute in the negative, the parties’ dispute is resolved, and the Court adopts this term’s plain and ordinary meaning without providing a construction. *See O2 Micro*, 521 F.3d at 1360–62.

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
plain and ordinary meaning; no construction necessary	“obtainable solely from the first data record”
Court’s Construction	
plain and ordinary meaning	

XIV. Undisputed Claim Term #9: “effecting an optical data transmission without the help of data disposed on the data carrier”

“The parties have agreed that ‘effecting an optical data transmission without the help of

data disposed on the data carrier’ should be construed in accordance with its plain and ordinary meaning.” Defs.’ Cl. Constr. Br. at 8; *see supra* note 4. Given no party disputes this claim term’s meaning, the Court does not construe it.

XV. Disputed Claim Term #10: “22. The method according to claim 14, wherein in a second step, the reading device forms a value derived from the read-out data and a secret key; in a third step, on the basis of the derived value, the authentication between the reading device and the data carrier is effected; and in a fourth step, the first data record is read out by the reading device.”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
plain and ordinary meaning; no construction necessary	“This claim term renders claim 22 indefinite. Alternatively, if the Court finds that this claim language is not indefinite, steps 2–4 of claim 22 must occur after each limitation of claim 14, which are Step 1.”

This disputed term is claim 22, reproduced below. *See* Defs.’ Cl. Constr. Br. at 29.

22. The method according to claim 14, wherein in a second step, the reading device forms a value derived from the read-out data and a secret key; in a third step, on the basis of the derived value, the authentication between the reading device and the data carrier is effected; and in a fourth step, the first data record is read out by the reading device.

’119 Patent at col. 8 ll. 4–10.

A. Parties’ Arguments

Defendants state claim 22—and claim 14 from which claim 22 depends—“require[s] an ordered sequence of enumerated steps for performing the claimed method.” Defs.’ Cl. Constr. Br. at 29 (emphasis omitted). Defendants contend claim 22’s ordered sequence is “inconsistent with the method recited in claim 14,” however, “rendering claim 22 indefinite.” *Id.* Defendants argue claim 14 requires “at least a one-sided authentication,” so when claim 22 recites “the authentication . . . is effected” in a later third step, claim 22 creates a “logical[] inconsisten[cy].” *Id.* at 30–31. If claim 22 is not indefinite, defendants aver “steps 2–4 of claim 22 must occur after step 1 of claim 14.” *Id.* at 31; *see also* Defs.’ Reply Cl. Constr. Br. at 13–16.

Plaintiff argues the one-sided authentication of claim 14 is not a limitation included in “the first step” as defendants argue. Pl.’s Resp. Cl. Constr. Br. at 30. Even if it were, plaintiff contends the language of claim 22 demonstrates the additional steps are just further limitations on the “the authentication” described in claim 14, so no inconsistency exists. *Id.* at 31. Plaintiff agrees with defendants claim 22’s steps 2–4 occur after step 1, so long as the steps are construed such that the authentication is not required to occur during step 1. *Id.* at 31–32. Plaintiff argues “limitations not reciting their timing or sequential placement indicates the patentee’s intent for

no timing or sequence to be imposed.” Pl.’s Surreply Cl. Constr. Br at 14.

B. Analysis

1. The Court’s Preliminary Construction

Before the *Markman* hearing, the Court considered the parties’ claim construction briefs and all referenced materials in full in reaching a preliminary construction for this disputed term. The Court adopted the following preliminary construction: indefinite, or steps 2–4 of claim 22 must occur after each limitation of claim 14, which are step 1.

2. The Court’s Final Construction

At the *Markman* hearing, the Court provided the parties with the Court’s preliminary construction. Tr. at 164:14–23.

As an initial matter, the parties do not dispute the meaning of any words within claim 22 or claim 14. Tr. at 164:24–166:14. The only dispute “is the ordering” of the limitations of claim 22. Tr. at 167:4–12. Plaintiff argues claim 22 places the authentication of claim 14 into a third step, giving it an order it otherwise did not have in claim 14 alone. Tr. at 169:2–170:11.

In support of its argument, plaintiff cites the specification. Tr. at 171:12–24. Plaintiff explains the ’119 Patent at column 4, lines 10–16 recites the full first procedure step without including an authentication, so where claim 14 recites a “first step,” the authentication of claim 22 need not be read into the preceding “first step.” *Id.* Plaintiff explains further the authentication step of claim 14 is separated from the “first step” of claim 14 with a new line and indentation, and under section 608.01 of the Manual of Patent Examining Procedure (“MPEP”), patent limitations can be “separated by line indentations.” Tr. at 173:21–174:5. According to plaintiff, the authentication of claim 14 occurs after a line indentation, so “[i]t’s a separate element” from the “first step” of claim 14. *Id.* Because the authentication of claim 14 is a separate limitation from the claimed “first step,” plaintiff avers claim 22 “further specifies when, [and] in what order[,] that authentication occurs[.]” Tr. at 175:10–16. “[A]ll [claim 22] is saying is the authentication . . . from 14, the one that is being effect[ed], it’s happening in the third step[;] . . . it’s making it relative to the first, the second, and the fourth step.” Tr. at 176:12–21 (plaintiff’s counsel). “So when you put all these together, this embodiment, the scope of [claim 22] . . . effectively, it’s adding a ‘wherein’ clause to [claim] 14.” Tr. at 177:3–7 (plaintiff’s counsel).

14. A method for reliably determining the deliberate use of a contactless data carrier, comprising, in dependence on the data to be exchanged between the data carrier and a reading device, in addition to an antenna-based contactless data transmission, effecting an optical data transmission with the help of data disposed on the data carrier,

wherein for a readout of a first data record, in a first step the reading device reads out a second data record, which is allocated to the first data record, and data optically represented on the data carrier, and

effecting at least a one-sided authentication between the reading device and the data carrier,

wherein the authentication is effected in such a way that it requires the use of both contactless antenna-based data transmission and optical data transmission that together define two data transmission channels.

Pl.’s Resp. Cl. Constr. Br. at 30 (highlighting first what elements comprise “a first step” and then the separate authentication limitation, not committed to an order by claim 14).

Defendants respond to plaintiff’s characterization of claim 22 by alleging the only way to logically read these claims is “steps 2 through 4 in claim 22 have to occur after the limitations in claim 14[.]” Tr. at 187:18–188:1. After the ’119 Patent underwent reexamination, claim 22 was “jumbled . . . into something that’s illegible” to defendants, and reading this timing into the claim is the only way defendants can make sense of it. Tr. at 187:14–17. Plaintiff asserts defendants’ arguments would be correct if claim 22 began: “the method according to claim 14 further comprising” Tr. at 188:13–15. Claim 22, however, is written as “a series of . . . ‘wherein’ clause[s,]” which function to modify claim “14 to specify timing” of some of its limitations and “to specify some additional steps.” Tr. at 188:16–19 (plaintiff’s counsel). Defendants contend claim 22 cannot “meet[] the reasonable certainty standard of *Nautilus*.” Tr. at 193:15–16.

Although, after its reexamination, claim 22 does not provide overwhelming clarity as to the scope of the invention claimed, there is sufficient evidence to demonstrate a PHOSITA would have been informed with “reasonable certainty . . . about the scope of the invention.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014) (emphasis added). First, claim 14 recites “[a] method for . . . effecting . . . a[n] . . . authentication,” and dependent claim 22 recites “wherein . . . in a third step, . . . the authentication . . . is effected[.]” Ex Parte Reexam. Certificate at col. 2 ll. 1–11; ’119 Patent at col. 8 ll. 4–9. As claim 14 refers to the effecting of an “authentication,” and claim 22 places the effected “authentication” in a third step, a PHOSITA would understand these claim terms refer to the same authentication. *See Sensor Elec. Tech., Inc. v. Bolb, Inc.*, No. 18-5194, 2019 WL 4645338, at *17 (N.D. Cal. Sept. 24, 2019) (quoting *HowLink Global LLC v. Network Commc’s Int’l Corp.*, 561 F. App’x 898, 903 (Fed. Cir. 2014)) (“the claim term carries the same meaning . . . because the Federal Circuit has held that claim terms ‘[b]ased on [an] antecedent basis relationship . . . carry the same meaning throughout the claims’”). Second, both claim 14 and the specification are consistent: the “first step” is not recited or structured as containing an “authentication.” The ’119 Patent at column 4, lines 10–16 rather recites the full “first step” without including an authentication, and claim 14 recites the authentication “separated by a line indentation” after the “first step.” *See* MPEP § 608.01. Consistent with claim 22, an authentication is not described in the specification until the “third procedure step.” ’119 Patent at col. 4 ll. 28–30. Lastly, claim 22’s use of “wherein,”

as opposed to “further comprising,” suggests claim 22 functions to place additional limitations on the authentication of claim 14 rather than require redundant authentications.

“Indefiniteness must be proven by clear and convincing evidence.” *Sonix Tech. Co. v. Publ’ns Int’l, Ltd.*, 844 F.3d 1370, 1377 (Fed. Cir. 2017). Defendants fail to put forth clear and convincing evidence claim 22, “read in light of the specification delineating the patent,” fails to inform the PHOSITA with reasonable certainty as to its scope. *Nautilus*, 572 U.S. at 901. As the parties do not dispute the meaning of any particular terms within claim 22 but just dispute claim 22’s order of operations, the Court’s analysis above “resolve[s] the parties’ dispute.” *O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1361 (Fed. Cir. 2008). The authentication is not part of step 1 in claim 14; claim 22 begins where claim 14 ends via a “wherein” clause, placing the authentication of claim 14 in step 3 of claim 22. With the parties’ dispute resolved, the Court adopts this term’s plain and ordinary meaning without providing a construction. *See id.* at 1360–62.

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
plain and ordinary meaning; no construction necessary	“This claim term renders claim 22 indefinite. Alternatively, if the Court finds that this claim language is not indefinite, steps 2–4 of claim 22 must occur after each limitation of claim 14, which are Step 1.”
Court’s Construction	
plain and ordinary meaning; claim 22 describes the claim 14 authentication via a “wherein” clause	

XVI. Disputed Claim Term #11: “effecting the data transmission in a bi-directional fashion”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
plain and ordinary meaning; no construction necessary	this claim term renders claim 15 indefinite

This disputed term appears in claim 15. *See* Defs.’ Cl. Constr. Br. at 32. The following claim limitation highlights selected usage of the term in context:

The method according to claim 14, comprising *effecting the data transmission in a bi-directional fashion*.

’119 Patent at col. 7 ll. 16–17.

A. Parties’ Arguments

Defendants argue claim 15 references “the data transmission” of claim 14, but claim 14 “recites two separate data transmissions, and it is unclear which transmission” is referred to by this claim term. Defs.’ Cl. Constr. Br. at 32–33 (emphasis omitted). Defendants state,

“[b]ecause two separate and distinct data transmissions occur in claim 14 ((1) an antenna-based contactless data transmission and (2) an optical data transmission), the antecedent basis for ‘the data transmission’ in claim 15 is vague and ambiguous, rendering claim 15 indefinite.” *Id.* at 33 (emphasis omitted). Plaintiff responds there “is no lack of clarity” because “the data transmission” in “claim 15 can refer to the antenna-based contactless data transmission or the optical data transmission” from claim 14. Pl.’s Resp. Cl. Constr. Br. at 32. Plaintiff avers the limitation need not be plural for the limitation to refer back to multiple antecedents. Pl.’s Surreply Cl. Constr. Br at 15–16.

B. Analysis

1. The Court’s Preliminary Construction

Before the *Markman* hearing, the Court considered the parties’ claim construction briefs and all referenced materials in full in reaching a preliminary construction for this disputed term. Rather than disputing the definition of any claim terms in claim 15, the parties dispute whether the claim limitation “the data transmission” in claim 15 can refer to multiple terms or only one term in claim 14 to provide sufficient antecedent basis. Claim 14 refers to two data transmissions: (1) “an antenna-based contactless data transmission”; and (2) “an optical data transmission[.]” Ex Parte Reexam. Certificate at col. 2 ll. 4–5. Claim 15 requires “*the* data transmission[,]” singular, of claim 14 to be bi-directional. ’119 Patent at col. 7 ll. 16–17 (emphasis added). Defendants argue claim 15 is indefinite because claim 15 limits a singular data transmission from claim 14 without specifically referring to either the “antenna-based contactless data transmission” or the “optical data transmission.” Plaintiff argues claim 15 refers to both data transmissions in claim 14 by citing the ’119 Patent specification. Although the ’119 Patent specification “discloses the possibility of ‘a contactless bi-directional data transmission’ and ‘a bi-directional optical data transmission’ between ‘the card and a reading device’ as being ‘practicable[,]’” claim 15 fails to specify which data transmission is bi-directional. Pl.’s Resp. Cl. Constr. Br. at 32 (quoting ’119 Patent at col. 2 ll. 49–52) (emphasis omitted).

Plaintiff relies on *PGS Geophysical AS v. Iancu*, where the Federal Circuit held “when a claim limitation has multiple antecedent recitations, the limitation may apply equally to each previous recitation so long as such an interpretation is not inconsistent with the specification or claims.” 736 F. App’x 888, 899 (Fed. Cir. 2018). Defendants distinguish the present case from *PGS* because the claim limitation in *PGS* was written in the plural form, including all possible antecedents; the present case, however, refers to “the data transmission” in the singular form, foreclosing the option of multiple antecedents. Defs.’ Reply Cl. Constr. Br. at 16.

Without specifying whether “*the* data transmission” in claim 15 refers to “an antenna-based contactless data transmission” or “an optical data transmission” in claim 14, claim 15 fails to apprise a PHOSITA with “reasonable certainty” of which data transmission must be bi-directional. *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014). The Court consequently preliminarily found claim 15 indefinite.

2. The Court’s Final Construction

At the *Markman* hearing, the Court provided the parties its preliminary finding of indefiniteness. Tr. at 195:19–23. The parties confirmed “the only dispute” with respect to this term “is related to what ‘the data transmission’ is in reference to and [its] antecedent basis[.]” Tr. at 195:24–196:6.

Plaintiff’s counsel espoused different arguments during the *Markman* hearing. One of plaintiff’s counsel maintained its argument “the data transmission” of claim 15 is “not restricted to just one” data transmission from claim 14— “[i]t could be both.” Tr. at 197:10–19. The claim limitation “could read on an embodiment that contains both[,]” but “it is at least one.” Tr. at 198:14–25. Plaintiff agreed the claim “could say [both] and it doesn’t, but it also doesn’t say . . . only [one].” Tr. at 199:1–4. Another of plaintiff’s counsel suggested “the data transmission” of claim 15 was specifically “referring to the optical data transmission” of claim 14. Tr. at 199:8–22. Plaintiff was unable to cite any authority where a court construed a singular claim limitation which found its antecedent basis in multiple sources. Tr. at 197:20–198:3 (plaintiff’s counsel citing *PGS*, 736 F. App’x at 899 (finding the “plurality of the coordinate-designated set of traces” limitation applied equally to each “coordinate-designated set of traces” recited in independent claim 1)).

Claim 15 fails to inform a PHOSITA with “reasonable certainty . . . about the scope of the invention.” *Nautilus*, 572 U.S. at 901 (emphasis added). “The data transmission” is a claim limitation in singular form with multiple possible antecedents. Plaintiff’s argument this singular claim limitation could refer to both antecedents simultaneously demonstrates the indefiniteness of this term. Claim 15 requires “effecting the data transmission”—singular—“in a bi-directional fashion.” ’119 Patent at col. 7 ll. 16–17. A PHOSITA cannot determine from the claim language which data transmission is so effected in claim 15. The specification provides no assistance; it discloses the possibility of “a contactless bi-directional data transmission” and “a bi-directional optical data transmission” between “the card and a reading device” as being “practicable.” ’119 Patent at col. 2 ll. 49–52. Lacking any reasonable certainty as to the correct antecedent basis of this term, the Court must, and does, find this claim term indefinite. *See Bushnell Hawthorne, LLC v. Cisco Sys., Inc.*, 813 F. App’x 522, 526 (Fed. Cir. 2020) (“Claim 1 describes three classes of IP addresses prior to the ‘said different IP Address’ limitation Each of those terms is presumed to have a separate meaning and, therefore, presumed to refer to *different* classes of IP addresses. With three different IP addresses to choose from, a P[H]OS[IT]A faced with the ‘said different IP Address’ limitation is left to wonder which of the different IP addresses is ‘said’ different one.” (internal citations omitted)).

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
plain and ordinary meaning; no construction necessary	this claim renders claim 15 indefinite
Court’s Construction	
indefinite	

XVII. Disputed Claim Term #12: “plausibility check”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
plain and ordinary meaning; no construction	“assessing the probability that the structure of

necessary	transferred data corresponds to a specific syntax and that the quantity of transferred data matches an expected length”
-----------	---

This disputed term appears in claims 1, 3, and 5 of the '717 Patent. *See* Defs.' Cl. Constr. Br. at 33. The following claim limitation highlights selected usage of the term in context:

the reader device performing a *plausibility check* of the obscured personal data arriving at the reader device, the reader device checking the obscuring in the received obscured personal data for correctness, . . . wherein the reader device performs the *plausibility check* prior to the checking of the obscuring for correctness, if the correctness of the obscuring is confirmed, removing the obscuring from the obscured personal data, thus obtaining recovered personal data

. . .

'717 Patent, col. 6 l. 55–col. 7 l. 3.

A. Parties' Arguments

Defendants jointly discuss the terms “*plausibility check*” and “*checks . . . for plausibility*” in their briefing. Defs.' Cl. Constr. Br. at 33–34. Defendants argue the terms have “no plain and ordinary meaning to one of ordinary skill outside the context of the '119 patent,” so a PHOSITA would understand “*plausibility check*” and “*checks . . . for plausibility*” using the '717 Patent specification.⁸ *Id.* at 35. Specifically, defendants argue the specification provides two relevant descriptions of “*plausibility*” in the '717 Patent. *Id.* at 34. First, the specification discusses “a check of the read-out data for plausibility is performed . . . consist[ing] of a check as to whether certain syntactic conditions are met, or of a check for specific data quantities.” '717 Patent at col. 2 ll. 51–57. Second, the specification indicates during the “*plausibility check*,” “it is checked whether the structure of the incoming data corresponds to a specific syntax. Further, it is checked whether the quantity of the transferred data matches an expected length.” *Id.* at col. 5 ll. 27–38.

Defendants state, using the specification, a PHOSITA would understand the terms to encompass “(1) checking whether the structure of the incoming data at the reader corresponds to a specific syntax, and (2) whether the quantity of the transferred data matches an expected length.” Defs.' Cl. Constr. Br. at 35. To combine “the specification's idiosyncratic explanation of this term with the plain and ordinary meaning of the term ‘*plausible*[,]’” defendants refer to a general-purpose dictionary to define *plausible* as “seeming to be reasonable or probable but not proved[.]” *Id.* at 35 (quoting Ex. 6 (*Plausible*, Oxford American Dictionary (Heald Colleges Ed. 1980)) at 5). Consequently, defendants submit the following construction of “*plausibility check*” or “*checks . . . for plausibility*”: “assessing the probability that the structure of transferred data corresponds to a specific syntax and that the quantity of transferred data matches an expected length.” *Id.* at 34–35.

⁸ Defendants cite the '119 Patent, but the Court assumes defendants mean the '717 Patent as the term appears in the '717 Patent and defendants cite the '717 specification.

Plaintiff asserts three arguments using intrinsic evidence to rebut defendants' construction. *See* Pl.'s Resp. Cl. Constr. Br. at 33–34. First, plaintiff argues “‘plausibility check’ and ‘checks . . . for plausibility’ require no construction as they have a plain and ordinary meaning of assessing or checking whether transferred data are likely or plausibly proper or authentic[.]” *Id.* at 33. Second, plaintiff analyzes claim 1 and its relationship with three other claims in the '717 Patent. *Id.* at 33–34. While claim 1 recites “the reader device performing a plausibility check of the obscured personal data arriving at the reader device[.]” claims 3 and 5—both depending from claim 1—recite plausibility checks of “data transferred to the reader device possess[ing] a specific syntax” and “data received at the reader device match[ing] a specific, anticipated quantity.” *Id.* (internal quotations omitted) (quoting '717 Patent at col. 6 ll. 55–56, col. 7 ll. 15–17, col. 7 ll. 21–24). Consequently, plaintiff argues based on the doctrine of claim differentiation, “claim 1 is not limited to an embodiment in which the plausibility check must include checking for a specific syntax and checking for a specific length (or quantity) of data”; stated otherwise, claims 3 and 5, which depend from claim 1, cannot impact the construction of the term in claim 1. *Id.* at 34 (citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 1324 (Fed. Cir. 2005)). Third, plaintiff argues “the specification discloses an embodiment in which ‘[t]he [plausibility] check *may* particularly consist’” of the two elements from defendants' construction. *Id.* (emphasis altered). Limiting the construction of “plausibility check” to assess the probability of both “that the structure of transferred data corresponds to a specific syntax” and ‘that the quantity of transferred data matches an expected length,’ contradicts the specification and impermissibly reads in extraneous limitations.” *Id.* To further bolster its argument, plaintiff cites again to the specification which “discloses other ways to conduct a plausibility check.” Pl.'s Resp. Cl. Constr. Br. at 34. Plaintiff clarifies “‘plausibility check’ may include *either* (i) checking whether a structure of transferred data corresponds to a specific syntax *or* (ii) checking whether a quantity of the transferred data matches an expected length, but that there is no requirement to perform both checks.” *Id.* at 34–35.

Using extrinsic evidence and canons of claim construction, plaintiff supports its plain and ordinary meaning reading of “plausibility checks” and “checks . . . for plausibility.” *See id.* at 35. Plaintiff argues dictionary definitions of “plausible” from the time of the invention align with the plain and ordinary meaning of the terms. *Id.* Plaintiff also avers “[t]he patentees did not act as their own lexicographer to define ‘plausibility check’ and ‘checks . . . for plausibility,’ nor did the patentees disavow the full scope of the terms.” *Id.* Using intrinsic evidence, extrinsic evidence, and canons of claim construction, plaintiff argues in favor of adopting a plain and ordinary meaning of “plausibility check” and “checks . . . for plausibility.” *Id.*

In reply, defendants modify their construction of “plausibility check” and “checks . . . for plausibility.” Defs.' Reply Cl. Constr. Br. at 17. Defendants propose a construction requiring the types of plausibility checks identified in the '717 Patent. *Id.* Specifically, defendants argue “plausibility check” and “checks . . . for plausibility” mean “assessment of the probability that the transferred data (1) has a structure corresponding to a specific syntax, (2) has a quantity that matches an expected length, and/or (3) includes all expected data objects.” *Id.* Defendants also cite to their expert rebuttal declaration to assert “‘plausibility check’ and ‘checks . . . for plausibility’ are not terms of art that have a specific meaning to one of ordinary skill in the art and that such a person would therefore look to the specification and intrinsic evidence to discern what the patentee meant by them[.]” *Id.* (citing Reb. Decl. of Daniel W. Engels, Ph.D. ¶¶ 38, 39,

ECF No. 269-2).

Rejecting defendants' modified construction, plaintiff argues defendants' construction contradicts precedent and intrinsic evidence. Pl.'s Surreply Cl. Constr. Br. at 16–17. Plaintiff states, “[E]mbodiments in the specification—even if there is only one embodiment—cannot limit the scope of the claims absent the patentee's ‘words or expressions of manifest exclusion or restriction[,]’” and defendants cannot “assert that the '717 Patent contains such expressions of manifest exclusion or restriction justifying their newly proposed construction[.]” *Id.* at 16 (internal quotations omitted) (quoting *Pulse Elecs., Inc. v. U.D. Elec. Corp.*, 860 F. App'x 735, 737 (Fed. Cir. 2021)). Plaintiff also rejects defendants' construction because “the intrinsic evidence demonstrates that Defendants' construction unduly limits the scope of the plausibility check terms.” *Id.* at 17. Specifically, plaintiff avers defendants ignore portions of the specification: not only does “the '717 Patent provide[] direct evidence that the disclosed plausibility checks are exemplary—not exclusive[,]” but also the specification describes the two types of checks as having “broader wording and scopes than those incorporated in Defendants' construction.” *Id.* (citing '717 Patent at col. 2 ll. 51–57). Plaintiff, rejecting defendants' new construction, maintains “plausibility checks” and “checks . . . for plausibility” have a plain and ordinary meaning in the art. *Id.* at 16–17.

B. Analysis

1. The Court's Preliminary Construction

Before the *Markman* hearing, the Court considered the parties' claim construction briefs and all referenced materials in full in reaching a preliminary construction for this disputed term. The '717 Patent introduces the notion of a plausibility check in independent claim 1. Claim 3 narrows the plausibility check in scope to check the syntax of the incoming data, and claim 5 further narrows the scope to check the quantity of data. As plaintiff correctly notes, limitations in dependent claims cannot narrow the construction of the term in the claims from which they depend. *Phillips*, 415 F.3d at 1324.

The '717 Patent specification is instructive in two instances for the construction of the plausibility check terms. First, the specification says “[t]he check may particularly consist of a check as to whether certain syntactic conditions are met, or of a check for specific data quantities.” '717 Patent at col. 2 ll. 53–55. As plaintiff notes, the use of “may” is crucial here. *See* Pl.'s Resp. Cl. Constr. Br. at 34. No specific type of check is required; the syntactic check and data quantity check are merely examples of types of checks. Second, the specification says during a plausibility check, “it is checked whether the structure of the incoming data corresponds to a specific syntax. Further, it is checked whether the quantity of the transferred data matches an expected length. It may further be checked whether all expected data objects were transferred.” '717 Patent at col. 5 ll. 27–38. The plausibility check described here requires checking both the structure and quantity of the data. The specification in this section, however, provides only exemplary embodiments of the invention, *id.* at col. 3 ll. 4–5, and does not clearly disclaim the broader scope of the terms used in the claim. *See Thorner v. Sony Comput. Ent. Am. LLC*, 669 F.3d 1362, 1366–67 (Fed. Cir. 2012) (“It is . . . not enough that the only embodiments, or all of the embodiments, contain a particular limitation. We do not read limitations from the

specification into claims; we do not redefine words.”); *Ethanol Boosting Sys., LLC v. Ford Motor Co.*, No. 2021-1949, 2022 WL 2798395, at *2 (Fed. Cir. July 18, 2022) (holding it is inappropriate to read limitations into the plain and ordinary meaning of a claim term without “a clear and unmistakable disavowal” of claim scope, even where the specification teaches just one embodiment).

Moreover, defendants attempt to read the limitations of claims 3 and 5 into the construction of “plausibility check” within claim 1. Such an approach to claim construction has been rejected by the Federal Circuit. *See Phillips*, 415 F.3d at 1324 (stating in a parenthetical citation “an independent claim should be given broader scope than a dependent claim to avoid rendering the dependent claim redundant”); *Am. Med. Sys., Inc. v. Biolitec, Inc.*, 618 F.3d 1354, 1360 (Fed. Cir. 2010) (“Under the doctrine of claim differentiation, those dependent claims give rise to a presumption that the broader independent claims are not confined to [the scope recited in dependent claims].” (citing *Phillips*, 415 F.3d at 1315)). *But see* Tr. at 204:2–10 (defendants’ counsel arguing “claim differentiation is an important principle” and “a presumption” but not controlling).

Accordingly, the specification provides several embodiments for this claim term and never disclaims the full scope of the term’s plain and ordinary meaning. The Court therefore adopted the following preliminary construction: plain meaning, “an assessment of apparent credibility.” *See* Joseph P. Pickett et al., *The American Heritage College Dictionary* (4th ed. 2002), P. App. Ex. 5 at PA27 (defining “plausible” as “[s]eemingly or apparently valid, likely, or acceptable; credible”), ECF No. 265-6; *Merriam-Webster’s Collegiate Dictionary* (10th ed. 1998), P. App. Ex. 6 at PA32 (defining “plausible” as “appearing worthy of belief”), ECF No. 265-7.

2. The Court’s Final Construction

At the *Markman* hearing, the Court provided the parties with the Court’s preliminary construction. Tr. at 202:20–203:6. Defendants maintained the embodiments of the specification must restrict the scope of the plain meaning of “plausibility check” in the claims. Tr. at 204:12–205:20. The Court read from the passage in the ’717 Patent defendants cite and noted, “in that paragraph, it says, ‘is preferred,’ ‘may consist,’ [and] ‘an embodiment example.’” Tr. at 205:21–206:8. The Court then asked defendants if a PHOSITA would “read this as demonstrative of what a plausibility check is intended to accomplish, not what it’s limited to[,]” and defendants responded, “that’s fair.” *Id.* Defendants explained the parties’ competing experts did not agree on the scope of “plausibility check” as “evidence of idiosyncratic use.” Tr. at 207:2–3. Defendants otherwise agreed plaintiff did not act as its own lexicographer or clearly disavow the scope of this claim limitation. Tr. at 207:9–12.

As the parties agree plaintiff neither disavowed the scope of this claim term nor acted as its own lexicographer, and embodiments of the specification are demonstrative rather than limiting, the Court adopts its preliminary construction as final: plain and ordinary meaning, “an assessment of apparent credibility.” *See Thorner*, 669 F.3d at 1365 (citing *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1580 (Fed. Cir. 1996)); Tr. at 207:22–208:3 (plaintiff agreeing with the Court’s construction and agreeing the construction applies to term 13).

Plaintiff's Proposed Construction	Defendants' Proposed Construction
plain and ordinary meaning; no construction necessary	“assessing the probability that the structure of transferred data corresponds to a specific syntax and that the quantity of transferred data matches an expected length”
Court's Construction	
plain and ordinary meaning; “an assessment of apparent credibility”	

XVIII. Disputed Claim Term #13: “checks . . . for plausibility”

Plaintiff's Proposed Construction	Defendants' Proposed Construction
plain and ordinary meaning; no construction necessary	“assessing the probability that the structure of transferred data corresponds to a specific syntax and that the quantity of transferred data matches an expected length”

This disputed term appears in claim 13 of the '717 Patent. *See* Defs.' Cl. Constr. Br. at 33. The following claim limitation highlights selected usage of the term in context:

A reader device with an interface for reading electronically-stored personal data from a passport booklet and a central processing device for checking correctness and authenticity of read-out data, wherein the central processing device *checks personal data that are acquired in a plurality of responses from the passport booklet upon receipt for plausibility*

'717 Patent at col. 8 ll. 15–21.

A. Parties' Arguments

In the briefs, the parties argue the constructions of terms 12 and 13 together, presenting no arguments unique to either term. *See* Defs.' Cl. Constr. Br. at 33–35; Pl.'s Resp. Cl. Constr. Br. at 33–35. As such, the Court refers to the parties' arguments section for disputed term 12, *supra* Section XVII.A, in construing this term.

B. Analysis

At oral argument, the parties agreed the Court's “term [12] ‘plausibility check,’ should have the same construction as claim term 13, ‘checks for plausibility.’” Tr. at 203:1–6. Accordingly, as agreed by the parties, the Court incorporates by reference the analysis of disputed claim term 12, *supra* Section XVII, and construes this term consistently with the construction of term 12.

Plaintiff's Proposed Construction	Defendants' Proposed Construction
plain and ordinary meaning; no construction necessary	“assessing the probability that the structure of transferred data corresponds to a specific

	syntax and that the quantity of transferred data matches an expected length”
Court’s Construction	
	plain and ordinary meaning; “assesses for apparent credibility”

XIX. Disputed Claim Term #14: “checking the recovered personal data for authenticity”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
plain and ordinary meaning; no construction necessary	“checking the recovered personal data [or read out data] by comparing it to reference data to determine if the data matches”

This disputed term appears in claim 1 of the ’717 Patent. *See* Defs.’ Cl. Constr. Br. at 35. The following claim limitation highlights selected usage of the term in context:

removing the obscuring from the obscured personal data, thus obtaining recovered personal data, *checking the recovered personal data for authenticity*, and, upon successful checking of the recovered personal data for authenticity, issuing a positive signal

’717 Patent, col. 7 ll. 1–7.

A. Parties’ Arguments

Using the ’717 Patent specification and prosecution history, defendants argue the constructions of terms relating to authenticity checks (“*checking the recovered personal data for authenticity*,” “*authenticity check*,” and “*checking . . . authenticity of read-out data*”) together, presenting no arguments unique to any one term. *See* Defs.’ Cl. Constr. Br. at 35–37. Defendants assert the patentee demonstrated a “*clear disavowal of claim scope*” in the ’717 Patent specification by using the words “*present invention[.]*” *Id.* at 35–36 (internal quotations omitted) (first quoting *Thorner v. Sony Comput. Ent. Am., LLC*, 669 F.3d 1362, 1366 (Fed. Cir. 2012), then quoting *Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1308 (Fed. Cir. 2007)). By “*providing details of features ‘[a]ccording to the invention’ as whole[.]*” defendants aver “*the ’717 patent demonstrates its intent to limit scope of the invention.*” *Id.* at 36 (quoting ’717 Patent, col. 5 l. 15–col. 6 l. 5) (citing *Verizon Servs.*, 503 F.3d at 1308). Defendants also cite two office action responses where the patentee argued “*a check of the recovered personal data for authenticity [] is the check in which the currently measured or detected biometric features are compared with the data stored in the passport booklet.*” *Id.* (quoting Ex. 4 (’717 Patent, *Applicant Arguments Made in Amendment*, May 5, 2014) at 44, ECF No. 262-4). Therefore, using the specification and prosecution history, defendants suggest “*authenticity checks*” start with “*a comparison . . . between the personal data and the reference data[.]*” and if the compared data matches, “*“the reader device . . . establishes authenticity[.]”*” *Id.* (quoting ’717 Patent at col. 5 l. 63–col. 6 l. 5).

Plaintiff argues the phrases concerning authenticity checks “require no construction as they have a plain and ordinary meaning of checking if the recovered personal data is

authentic[.]” Pl.’s Resp. Cl. Constr. Br. at 35. Although the “authenticity checking *may* include comparing recovered personal data” to reference data, plaintiff rejects defendants’ proposed construction because “authenticity check phrases are not limited to such comparison[.]” *Id.* at 35–36. Plaintiff also asserts defendants’ argument citing the ’717 Patent’s “according to an invention” section is “demonstrably false” for two reasons. First, “the cited portions of the ’717 patent in Defendants’ Opening Brief are actually found in a section of the ’717 patent titled, ‘Detailed Description of Exemplary Embodiments.’” *Id.* at 36–37 (quoting ’717 Patent at col. 3 l. 4–col. 6 l. 36) (emphasis omitted). Second, plaintiff disputes defendants’ assertion of claim scope disavowal because “the use of ‘according to the invention’ [is] far separated from the discussions of authenticity checks . . . [and] falls far short of a ‘clear and unmistakable’ limiting statement to disavow claim scope.” *Id.* at 37–38 (quoting *Thorner*, 669 F.3d at 1366–67). Plaintiff then rejects defendants’ prosecution history examples as not including a requirement for an authenticity check to compare the read-out data and the reference data. *Id.* at 38. Moreover, plaintiff argues claim differentiation principles help determine claim scope. Specifically, plaintiff contends claim differentiation principles support authenticity checks not being limited to the specific example of comparing recovered personal data to reference data to determine if the data matches because claim 8 depends from claim 1 and because claim 8 “more specifically recites that ‘the authenticity check is performed by comparison of the recovered personal data with reference data picked up on the spot.’” *Id.* at 36 (quoting ’717 Patent at col. 7 ll. 32–34). Plaintiff proposes phrases concerning authenticity checks have a plain and ordinary meaning because the patentee did not disavow claim scope or act as its own lexicographer and because the specification and prosecution history do not require comparing recovered personal data to reference data. *Id.*

Defendants reply by stating plaintiff “simply restates the words of the claims and fails to provide clarity as to what it means to check for authenticity or how the check is performed” and by suggesting construing authenticity check terms using the specification. Defs.’ Reply Cl. Constr. Br. at 18. Rebutting plaintiff’s claim differentiation argument, defendants assert the differentiation between claim 1 and claim 8 is not the “comparison of the recovered personal data with reference data[,]” but rather “data [being] picked up on the spot.” *Id.* (emphasis omitted). Furthermore, defendants aver “portions of the specification cited by Giesecke do not identify *how* the authenticity check is occurring or what this authenticity check encompasses[,]” and because the only disclosure about performing an authenticity check is “by comparing the recovered personal data to reference data to ensure a match[,]” defendants “propose a construction based on the disclosure of the specification[:] . . . ‘checking the recovered personal data for authenticity’ means ‘checking the recovered personal data by comparing it to reference data to determine if the data matches.’” *Id.* at 18–19.

Plaintiff, in its surreply, reasserts the authenticity checking terms require no construction and argues defendants’ proposed construction “unnecessarily complicates the claims.” Pl.’s Surreply Cl. Constr. Br. at 18. “[N]either Defendants nor their expert rebut [plaintiff’s expert’s] opinion that ‘a P[H]OSITA would have understood these terms to have their plain and ordinary meaning.’” *Id.* (quoting Decl. of Gabriel Robins, Ph.D. ¶ 130, ECF No. 264-1). Moreover, by replacing the authenticity checking terms with defendants’ proposed construction in the claim language, plaintiff argues defendants’ construction transforms the claims into “longer, more repetitive, and more confusing than the original” claim language. *Id.* Consequently, plaintiff

maintains the authenticity check terms should have a plain and ordinary meaning. *Id.*

B. Analysis

1. The Court's Preliminary Construction

Before the *Markman* hearing, the Court considered the parties' claim construction briefs and all referenced materials in full in reaching a preliminary construction for this disputed term. In analyzing the parties' arguments, the Court noted defendants' reliance on the specification for defendants' proposed construction. While defendants argue checking the data against a reference is the only type of authenticity check as defined by the patent, plaintiff argues checking the data against a reference is a mere example of an authenticity check. Defs.' Cl. Constr. at 36–37; Pl.'s Resp. Cl. Constr. Br. at 35–38. Although claim 1 mentions the authenticity checks, claim 1 does not detail the specific process of an authenticity check. *See* '717 Patent at col. 7 l. 4. Dependent claim 8, however, is more specific: "the authenticity check is performed by comparison of the recovered personal data with reference data picked up on the spot." *Id.* at col. 7 ll. 32–34. Plaintiff notes claim differentiation principles do not allow narrowing limitations in a dependent claim to be read back into an independent claim. Pl.'s Resp. Cl. Constr. Br. at 36. Plaintiff also argues a section of the specification beginning with "[a]ccording to the invention" does not disclaim claim scope. *See Absolute Software, Inc. v. Stealth Signal, Inc.*, 659 F.3d 1121, 1136 (Fed. Cir. 2011) ("[U]se of the phrase 'present invention' or 'this invention' is not always so limiting, such as where the references to a certain limitation as being the 'invention' are not uniform, or where other portions of the intrinsic evidence do not support applying the limitation to the entire patent."). The language of claim 1, moreover, only requires "checking the recovered personal data for authenticity," and does not require any comparative analysis. '717 Patent at col. 7 l. 4. As the patentee did not disavow claim scope, and using plaintiff's assertion of the canons of claim construction, the Court preliminarily agreed with plaintiff and adopted the following preliminary construction: plain meaning, "verifying transmitted digital information is not false or an imitation."

2. The Court's Final Construction

At the *Markman* hearing, the Court provided the parties with its preliminary construction. Tr. at 209:5–10. The parties agreed the Court's construction of this term could maintain the original language, "recovered personal data," as the parties' dispute focused on the meaning of authenticity check. Tr. at 215:18–217:15, 227:8–14.

In construing "authenticity check," the Court reviews intrinsic evidence such as prosecution history and the patent specification to glean the patentee's intended meaning of the term, considering plaintiff's proposed construction using plain and ordinary meaning "simply restates the words of the claims and fails to provide clarity[.]"⁹ Defs.' Reply Cl. Constr. Br. at

⁹ The Court notes plaintiff cites to an expert declaration regarding the knowledge of a person having ordinary skill in the art. Pl.'s Surreply Cl. Constr. Br. at 18. Although "extrinsic evidence and expert testimony can help to educate the court concerning the invention and the knowledge of persons of skill in the field of the invention . . . [the Federal Circuit has] cautioned against undue reliance on experts. The decision as to the need for and use of experts is within

18; *see Phillips v. AWH Corp.*, 415 F.3d 1303, 1317 (Fed. Cir. 2005) (citing *Autogiro Co. of Am. v. United States*, 384 F.2d 391, 399 (Ct. Cl. 1967)).

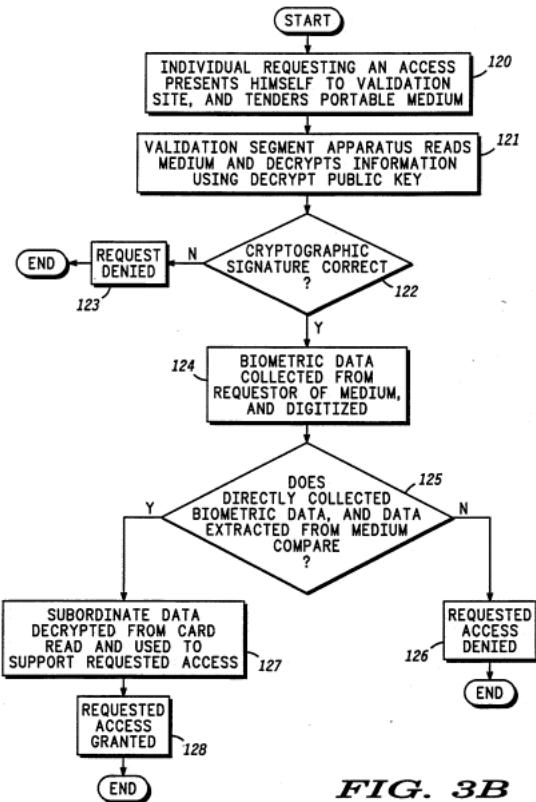
i. Prosecution History

First, the Court analyzes the prosecution history of the '717 Patent. Defendants suggest the Court construe authenticity check in accordance with a definitional statement found in the prosecution history because “[t]he public notice function of a patent and its prosecution history requires that a patentee be held to what he declares during the prosecution of his patent.” *Springs Window Fashions LP v. Novo Indus., L.P.*, 323 F.3d 989, 995 (Fed. Cir. 2003); *see* Tr. at 222:8–20 (“[DEFENDANTS]: . . . [W]e have a definitional statement in the prosecution history. We have nothing in the prosecution history or the specification that contradicts it, only further reinforces it. From our perspective, that means this authenticity check should be interpreted according to that statement in the prosecution history. . . . [I]f you make a statement in prosecution, whether you need to or not, whether you have to . . . distinguish a prior art reference or not, it is controlling. And here, it’s controlling.”); *see e.g.*, *Data Engine Techs. LLC v. Google LLC*, 10 F.4th 1375, 1383 (Fed. Cir. 2021) (reversing lower court decision for failure to apply a definitional statement in prosecution history to claim term construction). Specifically, defendants cite their Exhibit 4, Applicant Arguments Made in Amendment in response to a Non-Final Office Action mailed 5 May 2014. Defs.’ Cl. Constr. Br. at 36. When the patentee was rejected under 35 U.S.C. § 103 using two prior art references, the patentee stated “the method of claim 1 requires *three* checking operations”—one of which is “a check of the recovered personal data for authenticity[.]” *Id.* Ex. 4 at 44 (emphasis altered). The patentee’s argument in response to the office actions serves as a definitional statement of the three checking operations to overcome the § 103 rejection by providing a specific description of the patent’s novelty to prove patentability. *See Honeywell Inc. v. Victor Co. of Japan*, 298 F.3d 1317, 1323 (Fed. Cir. 2002) (“[A] patentee may define a claim term . . . in the prosecution history.”). Further, the patentee did not argue alternative definitions for authenticity check and instead notified the public of one specific, limiting construction of authenticity check. *See Springs Window Fashions*, 323 F.3d at 995. Specifically, the patentee argued an authenticity check is “the check in which the currently measured or detected biometric features are compared with the data stored in the passport booklet[.]” Defs.’ Cl. Constr. Br. Ex. 4 at 44. The patentee did not use permissive language for its definition or provide alternatives. To assert a non-limiting definition, the patentee could have argued an authenticity check is “*a* check in which the currently measured or detected biometric features *may be* compared with the data stored in the passport booklet, *or other reference data*.” *Cf. id.*; *see Rheox, Inc. v. Entact, Inc.*, 276 F.3d 1319, 1326 (Fed. Cir. 2002) (stating a court may “assess whether a patentee relinquished a particular claim construction based on the totality of the prosecution history, which includes amendments to claims and arguments made to overcome or distinguish references”). By using a definitional statement to overcome the two prior art references—neither of which teach the three checking operations in claim 1—the patentee limits “a check of the recovered personal data for authenticity” to “the check in which the currently measured or detected biometric features are compared with the data stored in the passport booklet[.]” Defs.’ Cl. Constr. Br. Ex. 4 at 44–46. By “providing an express definition of” “authenticity check” in the prosecution history, the

the sound discretion of the . . . court.” *Inpro II Licensing, S.A.R.L. v. T-Mobile USA, Inc.*, 450 F.3d 1350, 1357 (Fed. Cir. 2006). The Court here does not opine on the relevance of or reliance on plaintiff’s expert declaration.

patentee triggers prosecution disclaimer and limits the scope of the claim term.¹⁰ See *Data Engine Techs. LLC*, 10 F.4th at 1383 (“Consistent with the public notice function of the prosecution history, the public is entitled to rely on these statements as defining the scope of the claims.”); *Trading Techs. Int'l, Inc. v. Open E Cry, LLC*, 728 F.3d 1309, 1322 (Fed. Cir. 2013) (“[A]n applicant’s actions during prosecution prospectively narrow the literal scope of an otherwise more expansive claim limitation.”).

The Court also analyzes visual figures cited by the examiner in the prosecution history, offering valuable insight into claim language. See *Hogg v. Emerson*, 52 U.S. 587, 606 (1850) (“The court did right, too, in holding to the propriety of looking to the whole specification, and also to the drawings, for explanation of any thing obscure.”); *CVI/Beta Ventures, Inc. v. Tura LP*, 112 F.3d 1146, 1153 (Fed. Cir. 1997) (“[T]he patent drawings are highly relevant in construing the . . . limitations of the claims” when the claim language does not define the limitations.). In the prosecution history, somehow “[w]ithout making an[] admission, Applicant presently agree[d] with” the patent examiner’s likening of “a check of the recovered personal data for authenticity” to block 125 of the prior art figure reproduced below:



¹⁰ Given Federal Circuit precedent indicating a patentee’s arguments need not be tied to the scope of the prior art rejection, the Court here does not opine on the scope of prior art rejection because “an applicant’s argument that a prior art reference is distinguishable on a particular ground can serve as a disclaimer of claim scope even if the applicant distinguishes the reference on other grounds as well.” *Saffran v. Johnson & Johnson*, 712 F.3d 549, 559 (Fed. Cir. 2013); see *Data Engine Techs. LLC*, 10 F.4th at 1383 (“[W]e have held patentees to distinguishing statements made during prosecution even if they said more than needed to overcome a prior art rejection.”).

Defs.’ Cl. Constr. Br. Ex. 4 at 44; United States Patent No. 4,993,068 fig.3B (filed Nov. 27, 1989). Notwithstanding the patentee agreeing to but not admitting authenticity checking is similar to block 125 of the prior art, the examiner’s reference indicates an authenticity check occurs by comparing two pieces of data: (1) a form of personal data, such as the prior art’s “data extracted from medium”; and (2) a form of reference data, such as the prior art’s “directly collected biometric data[.]” Defs.’ Cl. Constr. Br. Ex. 4 at 44. The prosecution history—including both the patentee’s patentability arguments and the examiner’s cited flowchart—indicates “authenticity check” requires a comparison between personal data and reference data.

ii. Specification

The Court finds support for the construction of authenticity check in the drawings and the written description of the specification. In addition to the examiner’s cited prior art flowchart discussed *supra*, the patentee’s own specification contains a similar flowchart, reproduced below. ’717 Patent at fig.3. Specifically, Figure 3 of the ’717 Patent indicates an authenticity check occurs by comparing two pieces of data: (1) a form of personal data, such as Figure 3’s “[p]ersonal data”; and (2) a form of reference data, such as Figure 3’s “[p]resent biometric characteristic[.]”

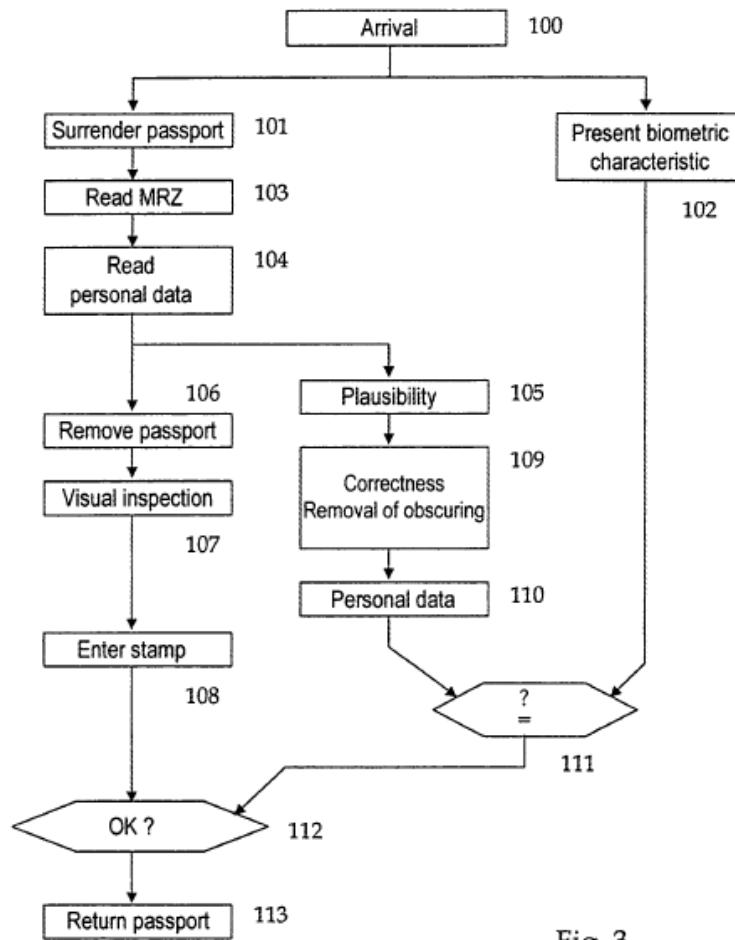


Fig. 3

Not only is Figure 3 similar to the examiner’s cited prior art, but block 111—representing the process of authenticity checking—also combines “[p]ersonal data” and “[p]resent biometric characteristic” with a question mark and equals sign. *Id.*; *see also id.* at col. 5 l. 67–col. 6 l. 5. Consequently, in view of the specification and Figure 3, authenticity check requires a comparison between recovered personal data and reference data.

The written description further supports defendants’ construction of authenticity check. Although the parties both agree “the specification does limit the ’717 Patent to a particular kind of authenticity check[,]” the parties dispute which specific disclosure limits claim scope. *See Tr.* at 211:17–21 (defendants’ agreement), 220:1–2 (plaintiff’s agreement). In describing what an authenticity check is, the specification informs claim construction: after the “central processing unit 23 . . . reviews the biometrically checkable data for authenticity[,] . . . it compares the biometrically checkable data to the reference data that was in the meantime sent from the pick up device 30 to the central processing unit[.]” ’717 Patent at col. 5 l. 63–67 (emphasis added); *see Phillips*, 415 F.3d at 1316 (“In light of the statutory directive that the inventor provide a ‘full’ and ‘exact’ description of the claimed invention, the specification necessarily informs the proper construction of the claims.”). “[T]he person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the *entire patent*, including the specification[,]” so reading “authenticity check” in view of the specification results in a requirement to compare biometrically checkable data with reference data. *Phillips*, 415 F.3d at 1313 (emphasis added).

iii. Claim Differentiation

Acknowledging plaintiff’s invocation of the doctrine of claim differentiation, the Court analyzes whether using “compare” in authenticity checking’s construction renders claim 8 redundant. Both parties agree claim 8 has an additional limitation not found in claim 1: defendants argue “[t]he further limitation added in dependent claim 8 is directed to checking the recovered personal data to data *picked up on the spot*[,]” and plaintiff “agrees with Defendants that, under the doctrine of claim differentiation, the authenticity check of claim 1 does not have to use data ‘picked up on the spot,’ which is recited in dependent claim 8.” Defs.’ Reply Cl. Constr. Br. at 18; Pl.’s Surreply Cl. Constr. Br. at 18 n.20; *see also Tr.* at 210:14–18 (“[DEFENDANTS]: . . . Claim 8 is a very specific embodiment in which . . . the reference data is picked up ‘on the spot,’ which is a little bit colloquial, but essentially means, from our perspective, exactly at the time the password [sic] is tendered.”), 211:4–10 (“[DEFENDANTS]: . . . [C]laim 8, from a claim differentiation perspective, refers to that simultaneously handing of the passport and collection of the data on the spot. What appears in column 6, lines 11 through 36, is an alternative embodiment where the biometric data is collected earlier. So I don’t think there’s a problem from the claim differentiation perspective.”). Given claim 1 does not require the data to be picked up “on the spot,” incorporating “compare” in the Court’s construction of authenticity does not violate claim differentiation principles.

The Court also analyzes whether defendants’ reading of authenticity check to include “to determine if the data matches” renders a subsequent claim limitation in claim 1 redundant. After the machine “check[s] the recovered personal data for authenticity,” and “upon successful checking of the recovered personal data for authenticity, [the machine] issu[es] a positive

signal[.]” ’717 Patent at col. 7 ll. 4–6. Using defendants’ proposed construction, after the plausibility check and the correctness check, the machine would duplicatively “determine if the data matches,” and “upon [a] successful check[,] issu[e] a positive signal[.]” *Id.* Considering “a successful check” necessitates “determin[ing] if the data matches,” defendants’ narrowing of the claim term construction with “to determine if the data matches” is improper. Abiding by claim differentiation principles, the Court removes “to determine if the data matches” from defendants’ construction.

iv. Summary

As a result of the Court’s synthesis of claim language, prosecution history, the ’717 Patent specification, and canons of claim construction, the Court concludes authenticity checks require a comparison between recovered personal data and reference data. As the parties do not dispute the meaning of “recovered personal data,” but only dispute “authenticity check,” the Court’s analysis above “resolve[s] the parties’ dispute.” *O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1361 (Fed. Cir. 2008). The Court accordingly adopts the following construction of the disputed claim term: “checking the recovered personal data by comparing it to reference data.”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
plain and ordinary meaning; no construction necessary	“checking the recovered personal data [or read out data] by comparing it to reference data to determine if the data matches”
Court’s Construction	
“checking the recovered personal data by comparing it to reference data”	

XX. Disputed Claim Term #15: “authenticity check”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
plain and ordinary meaning; no construction necessary	“checking the recovered personal data [or read out data] by comparing it to reference data to determine if the data matches”

This disputed term appears in claims 1, 2, 4, 6, 8, and 9 of the ’717 Patent. *See* Defs.’ Cl. Constr. Br. at 35. The following claim limitation highlights selected usage of the term in context:

The method according to claim 1, wherein the removal of the obscuring and the *authenticity check* occur only after the passport booklet has been removed from the reader device.”

’717 Patent at col. 7 ll. 12–14.

A. Parties’ Arguments

In the briefs, the parties argued the constructions of terms 14, 15, and 16 together,

presenting no arguments unique to any one term. *See* Defs.’ Cl. Constr. Br. at 35–37; Pl.’s Resp. Cl. Constr. Br. at 35–38. As such, the Court refers to the parties’ arguments section for disputed term 14, *supra* Section XIX.A, in construing this term.

B. Analysis

At the *Markman* hearing, the parties agreed the only disputed term between claim terms 14, 15, and 16 is “authenticity check” and “the same construction” should apply to all three terms. Tr. at 209:5–23, 227:15–25. Accordingly, as agreed by the parties, the Court incorporates by reference the analysis of disputed claim term 14, *supra* Section XIX, and construes this term consistently with the construction of term 14.

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
plain and ordinary meaning; no construction necessary	“checking the recovered personal data [or read out data] by comparing it to reference data to determine if the data matches”
Court’s Construction	
“checking the recovered personal data by comparing it to reference data”	

XXI. Disputed Claim Term #16: “checking . . . authenticity of read-out data”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
plain and ordinary meaning; no construction necessary	“checking the recovered personal data [or read out data] by comparing it to reference data to determine if the data matches”

This disputed term appears in claim 13 of the ’717 Patent. *See* Defs.’ Cl. Constr. Br. at 35. The following claim limitation highlights selected usage of the term in context:

A reader device with an interface for reading electronically-stored personal data from a passport booklet and a central processing device for *checking correctness and authenticity of read-out data*

’717 Patent at col. 8 ll. 15–18.

A. Parties’ Arguments

In the briefs, the parties argued the constructions of terms 14, 15, and 16 together, presenting no arguments unique to any one term. *See* Defs.’ Cl. Constr. Br. at 35–37; Pl.’s Resp. Cl. Constr. Br. at 35–38. As such, the Court refers to the parties’ arguments section of disputed term 14, *supra* Section XIX.A, in construing this term.

B. Analysis

At oral argument, the parties agreed the only disputed term between claim terms 14, 15, and 16 is “authenticity check” and “the same construction” should apply to all three terms. Tr. at

209:5–23, 227:15–25. Accordingly, as agreed by the parties, the Court incorporates by reference the analysis of disputed claim term 14, *supra* Section XIX, and construes this term consistently with the construction of term 14.

Plaintiff's Proposed Construction	Defendants' Proposed Construction
plain and ordinary meaning; no construction necessary	“checking the recovered personal data [or read out data] by comparing it to reference data to determine if the data matches”
Court's Construction	
“checking the recovered personal data by comparing it to reference data”	

XXII. Disputed Claim Term #17: “wherein the removal of the obscuring and the authenticity check occur only after the passport booklet has been removed from the reader device”

Plaintiff's Proposed Construction	Defendants' Proposed Construction
plain and ordinary meaning; no construction necessary	“wherein the removal of the obscuring [or the correctness check] and the authenticity check [of the readout data] occur only after the passport booklet has been moved a sufficient distance from the reader device interface such that there is no longer communication with the reader device”

This disputed term appears in claims 2, 4, and 6 of the '717 Patent. *See* Defs.' Cl. Constr. Br. at 37. The following claim limitation highlights selected usage of the term in context:

The method according to claim 1, *wherein the removal of the obscuring and the authenticity check occur only after the passport booklet has been removed from the reader device.*

'717 Patent at col. 7 ll. 12–14.

A. Parties' Arguments

The parties dispute the meaning of removing a passport from a reader. Contextually, the parties disagree on whether “a passport can be considered ‘removed from’ the reader if it is still in communication with the reader.” Defs.' Cl. Constr. Br. at 37; Pl.'s Rep. Cl. Constr. Br. at 39. Citing the patent specification and drawings, defendants argue the purpose of the invention, which in defendants' view is to allow simultaneous checking and inspection of a passport by a machine and person, is nullified because “the correctness and authenticity checks would be performed while the passport booklet was still in communication with the reader.” Defs.' Cl. Constr. Br. at 38. “If the passport booklet is still in communication with the reader, it has not been ‘removed’ from the reader or the reader interface in the context of the ‘717 patent.” *Id.* Defendants, therefore, propose the term “removal” be construed as “moved a sufficient distance from the reader device interface such that there is no longer communication with the reader

device.” *Id.* at 37.

Plaintiff states, “the phrase ‘removed from’ requires no construction as it has a plain and ordinary meaning of moved from a prior position[,]” and “[d]efendants attempt to narrow the claim scope[.]” Pl.’s Resp. Cl. Constr. Br. at 38–39. Also citing the intrinsic record, plaintiff avers nothing in the claim language of claims 2, 4, or 6 or the specification “requires that the passport booklet is moved by or to a certain distance relative to the reader device, or that communication between the booklet and reader device stops at a certain point.” *Id.* at 39. “Instead, the specification provides that one purpose of removing a passport from a reader device is so that an officer can perform a visual inspection of the passport” but “does not mean that communication ceases between the passport and reader device.” *Id.* Plaintiff argues, “in the context of the ’717 Patent, as long as an officer can conduct visual inspection in parallel with correctness and authenticity checks, it is immaterial whether the passport can still communicate with a reader device while being ‘removed from’ the reader device.” *Id.* “[B]elied by [defendants’] own disclosed extrinsic evidence[,]” plaintiff suggests “commonly-used dictionary definitions” in gleaning the plain and ordinary meaning of “removed from” are “consistent with what a P[H]OSITA would have understood at the time of the inventin [sic][,]” offering a definition of “to move from a place or position[.]” *Id.* at 40 (quoting Webster’s New Universal Unabridged Dictionary (Barnes & Noble, Inc. 2d ed. 2003) (1996), P. App. Ex. 7 at PA41, ECF No. 265-8).

Defendants reply using claim language and intrinsic evidence. *See* Defs.’ Reply Cl. Constr. Br. at 19–20. First, defendants argue “the intrinsic evidence makes it clear that the terms ‘removed from’ must mean more than simply ‘moved from a prior position,’ and must encompass the passport booklet being taken away from the reader.” *Id.* at 19 (emphasis altered) (citing ’717 Patent at fig. 3, col. 4 ll. 13–33, col. 5 ll. 39–48). “Further, the claim language itself requires the passport booklet to be moved from the reader device, and simply moving the passport booklet from ‘a prior position’ would not necessarily satisfy this requirement.” *Id.* at 20 (emphasis omitted). Second, defendants argue plaintiff’s proposal of plain and ordinary meaning creates ambiguity and “raises more questions than it answers.” *Id.* Consequently, defendants propose “‘removed from’ means the passport booklet has been ‘removed’ from the reader so that it is no longer in communication with the reader interface[,]” a reading consistent with a “P[H]OSITA’s understanding of ‘removal’ in the context of the intrinsic record.” *Id.*

Acknowledging the claim phrase “removed from the reader device” implies “separation between the reader device/interface and the passport booklet,” plaintiff argues defendants impermissibly import limitations from the specification by proposing the passport booklet must be moved “such that there is no longer communication with the reader device.”” Pl.’s Surreply Cl. Constr. Br. at 19–20 (quoting Defs.’ Cl. Constr. Br. at 37) (emphasis omitted). The specification, however, does not “mention[] halting communications with the reader device.” *Id.* at 20. “As long as an officer can conduct a visual inspection, it is immaterial how far the passport booklet is removed from the reader, or whether it remains in communication with the reader device.” *Id.* (citing Pl.’s Resp. Cl. Constr. Br. at 39). Plaintiff, therefore, maintains “removed from” has a plain and ordinary meaning and requires no construction. *Id.* at 19–20.

B. Analysis

1. The Court's Preliminary Construction

Before the *Markman* hearing, the Court considered the parties' claim construction briefs and all referenced materials in full in reaching a preliminary construction for this disputed term. The parties dispute what it means for the passport to be removed from the reader device. Defendants argue it means the passport is far enough away there is no longer communication with the reader. Plaintiff argues the passport only needs to be removed such that the verifying person can perform a visual inspection, and it is immaterial whether communication between the passport and the reader device is broken.

The specification does not describe communication between the reading device and the passport being broken. Column 4 lines 13–33 say “verifying person Z takes the passport 10 from the reader device 20 and performs a visual inspection of the person P being checked.” Column 5 lines 39–48 similarly say “verifying person Z then removes the passport 10 from the reader device 20 (step 106), and performs a visual inspection of the person P to be checked.” The logic of the patent dictates communication between the reader device and passport is not required during the visual inspection. '717 Patent at fig.3, col. 2 ll. 43–50. It is not necessary communication be broken, however, only the inspector is able to perform a visual inspection.

Remove is defined as “to move from a place or position.” Webster’s New Universal Unabridged Dictionary (Barnes & Noble, Inc. 2d ed. 2003) (1996); *see also Remove*, Webster’s Third New International Dictionary, (2002) (“to move by lifting, pushing aside, or taking away or off”). Therefore, to be “removed from” something means to be moved from that thing. For a passport to be removed from a passport reader means to be moved from the passport reader. The only limitation provided in the patent is a visual inspection must be possible. '717 Patent at fig.3, col. 4 ll. 13–33, col. 5 ll. 39–48.

The Court adopted the following preliminary construction: “wherein the removal of the obscuring and the authenticity check occur only after the passport booklet has been moved by lifting, pushing aside, or taking away from or off the reader device.”

2. The Court's Final Construction

At the *Markman* hearing, both parties agreed to the Court's preliminary construction. Tr. at 229:12–20. As the parties agree with the Court's preliminary construction for this claim term, the Court adopts its preliminary construction as final: “wherein the removal of the obscuring and the authenticity check occur only after the passport booklet has been moved by lifting, pushing aside, or taking away from or off the reader device.”

Plaintiff's Proposed Construction	Defendants' Proposed Construction
plain and ordinary meaning; no construction necessary	“wherein the removal of the obscuring [or the correctness check] and the authenticity check [of the readout data] occur only after the passport booklet has been moved a sufficient distance from the reader device interface such

	that there is no longer communication with the reader device”
Court's Construction	
“wherein the removal of the obscuring and the authenticity check occur only after the passport booklet has been moved by lifting, pushing aside, or taking away from or off the reader device”	

XXIII. Disputed Claim Term #18: “performs the correctness and authenticity checks of the read-out data only after passport booklet has been removed from the interface”

Plaintiff's Proposed Construction	Defendants' Proposed Construction
plain and ordinary meaning; no construction necessary	“wherein the removal of the obscuring [or the correctness check] and the authenticity check [of the readout data] occur only after the passport booklet has been moved a sufficient distance from the reader device interface such that there is no longer communication with the reader device”

This disputed term appears in claim 13 of the '717 Patent. *See* Defs.' Cl. Constr. Br. at 37. The following claim limitation highlights selected usage of the term in context:

wherein the central processing device checks personal data that are acquired in a plurality of responses from the passport booklet upon receipt for plausibility, but *performs the correctness and authenticity checks of the read-out data only after the passport booklet has been removed from the interface . . .*

'717 Patent at col. 8 ll. 18–23.

A. Parties' Arguments

In the briefs, the parties argued the constructions of terms 17 and 18 together, presenting no arguments unique to either term. *See* Defs.' Cl. Constr. Br. at 37–38; Pl.'s Resp. Cl. Constr. Br. at 38–40. As such, the Court refers to the parties' arguments section for disputed term 17, *supra* Section XXII.A, in construing this term.

B. Analysis

At oral argument, the parties agreed “terms[] 17 and 18[] are to be read together and the focus is on ‘removed from[.]’” Tr. at 228:20–229:11. Neither party disputed the Court's construction of this term. Tr. at 229:12–20. Accordingly, as agreed by the parties, the Court incorporates by reference the analysis of disputed claim term 17, *supra* Section XXII, and construes this term consistently with the construction of term 17.

Plaintiff's Proposed Construction	Defendants' Proposed Construction
plain and ordinary meaning; no construction	“wherein the removal of the obscuring [or the

necessary	correctness check] and the authenticity check [of the readout data] occur only after the passport booklet has been moved a sufficient distance from the reader device interface such that there is no longer communication with the reader device”
Court's Construction	
“performs the correctness and authenticity checks of the readout data only after the passport booklet has been moved by lifting, pushing aside, or taking away from or off the reader device”	

XXIV. Conclusion

The disputed terms are interpreted by the Court in this Claim Construction Opinion and Order. The Court adopts the construction of the terms as set forth herein. As discussed *supra* Section XVI, disputed claim term 11, “effecting the data transmission in a bi-directional fashion,” is indefinite under 35 U.S.C. § 112. As a result, dependent claim 15 of the ’119 Patent is rendered invalid. The parties **SHALL FILE** a joint status report on or before **27 January 2023**: jointly proposing a schedule for further proceedings; and stating the parties’ positions on the stayed § 101 motion to dismiss.

IT IS SO ORDERED.

s/ Ryan T. Holte
 RYAN T. HOLTE
 Judge